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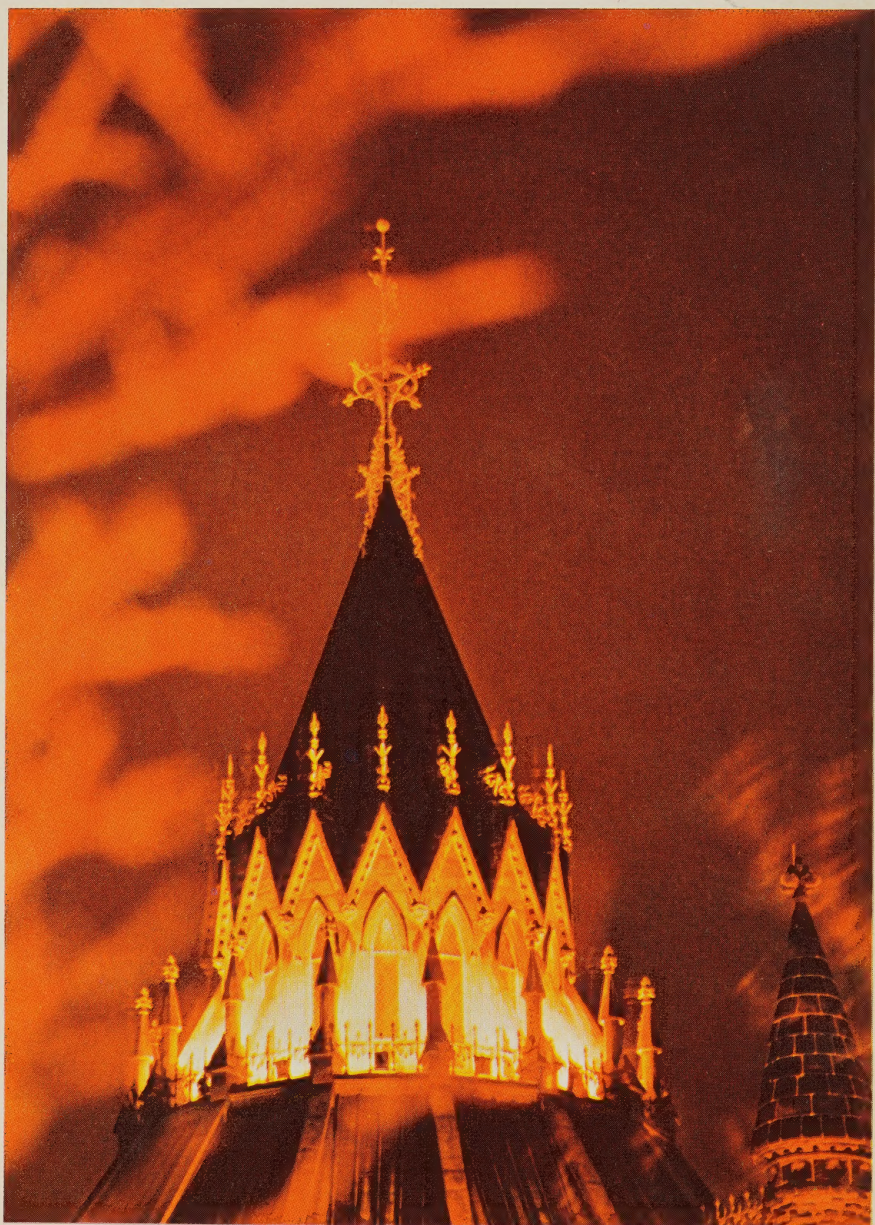


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# Canada 1971


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The Annual Handbook  
of present conditions  
and recent progress

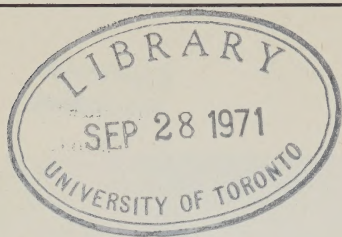
*Prepared in the*

Year Book Division

 DOMINION BUREAU OF STATISTICS  
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# Foreword

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*Canada 1971* is the 40th annual edition of the handbook *Canada*. It presents a view of life in this country and a summary of recent economic, social, and cultural developments. Textual and statistical material has been provided by various divisions of the Dominion Bureau of Statistics, by other government departments, and by special contributors. Articles on Canada's geography, climate, landscape, wildlife, urbanization, history, government, and economics are features of this edition. The illustrations have been selected from a wide range of governmental, commercial, press, and private sources, and maps were drawn by the Cartographic Division of the Department of Energy, Mines, and Resources. The artwork was executed by the art section of D.B.S., under the direction of Denis Laframboise.

*Canada 1971* was planned and produced by Constance McFarland, Editor, and the Year Book Division staff, under the direction of Pierre Joncas, Director of the Division.

*Walter E. Duffett.*

October 1970

Dominion Statistician





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# The Land

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## Geography

Canada forms the main part of the northern half of the North American continent, which also includes Greenland in the north-east and Alaska in the north-west.

Canada covers an area of 3,851,809 square miles (9,976,139 square kilometers). It thus ranks second in the world, after the Soviet Union (8,649,539 square miles or 22,402,200 km<sup>2</sup>) and just before China (3,705,408 square miles or 9,596,961 km<sup>2</sup>) and the United States (3,615,211 square miles or 9,363,353 km<sup>2</sup>). From the southernmost point of Ontario to the northernmost point of Ellesmere Island, Canada ranges over 2,875 miles (4,627 km), and 3,223 miles (5,187 km) separate its easternmost and westernmost points. It spans 41 degrees of latitude (from 42°N to 83°N) and 88 degrees of longitude (from 52°W to 140°W); from Newfoundland in the east to British Columbia in the west, it covers six time zones. Its border with Alaska is 1,540 miles long (2,478 km) and its border with the United States 3,987 miles (6,416 km). In addition, the continental portion of Canada (excluding its islands) has 17,860 miles of shoreline (28,743 km).

**Canada's soil, vegetation, and wildlife.** Canada is surrounded by three oceans: the Atlantic, the Pacific, and the Arctic. This last ocean occupies a very special place and Canada's interest in it is steadily increasing. Access to the polar region was very difficult in the past but is becoming less so nowadays. Submarines navigate under the ice and other ships break through the ice.

Thanks to its northern location astride the temperate and Arctic regions, Canada enjoys a happy variety of climates, landscapes, and growth. Thus, grapes are cultivated in the temperate south, in Ontario for example. Fields, prairies and forests alternate: in the south, there are oaks and maples, but as one moves away from southern Canada towards the Middle North, coniferous evergreens predominate. Together, these two types of forests occupy 44 per cent of the country's surface and supply raw material for the wood and paper industries. Further on, in the Far North, one finds mainly the vast treeless and often marshy expanses of the tundra. Finally, in the Extreme North, even low-lying plants become scarce and one enters gradually into the polar desert. Soils show a parallel evolution: in the south, they are deep enough for the most part, well drained, and favourable to agriculture. In the Middle North, they are generally less deep, sometimes less well aerated; in the Far North, this characteristic is heightened still further. In the Extreme North, plain fragments of frost-shattered barren rocks prevail; these are often arranged in geometric patterns, forming polygons, parallel lines, and circles.

A field of wild flowers at Port au Persil, Que.





A typical silhouette in the Precambrian Shield.

In the south, the subsoil is never frozen. In the Middle North, there are places where it is permanently frozen. In the Far North, this tendency is magnified, and in all of the Extreme North, permanently frozen subsoil extends continuously except where there are deep lakes and large rivers. The waters of the seas, the rivers, and the lakes show similar gradations: from the south to the north, their ice surfaces are increasingly persistent. Finally, around Ellesmere Island and in many parts of the Arctic archipelago, ice floes prevail the year round.

The animal world has adapted itself to the various conditions of climate, soil, water, and vegetation. It is estimated that there are over 100,000 different species of animals in Canada. Among others, there are 149 species of land mammals, 44 species of sea mammals, 518 species of birds, 50 species of amphibians, 60 species of reptiles, 190 species of freshwater fish, and 580 species of saltwater fish. The land mammal living farthest to the north is the musk-ox, and measures have been adopted to protect it against abusive hunting; farther south, one finds the polar bear, the snow hare, the tundra caribou, the forest caribou, the wide-antlered moose, the bison, and many other interesting species.





Waterton Lake, Alberta

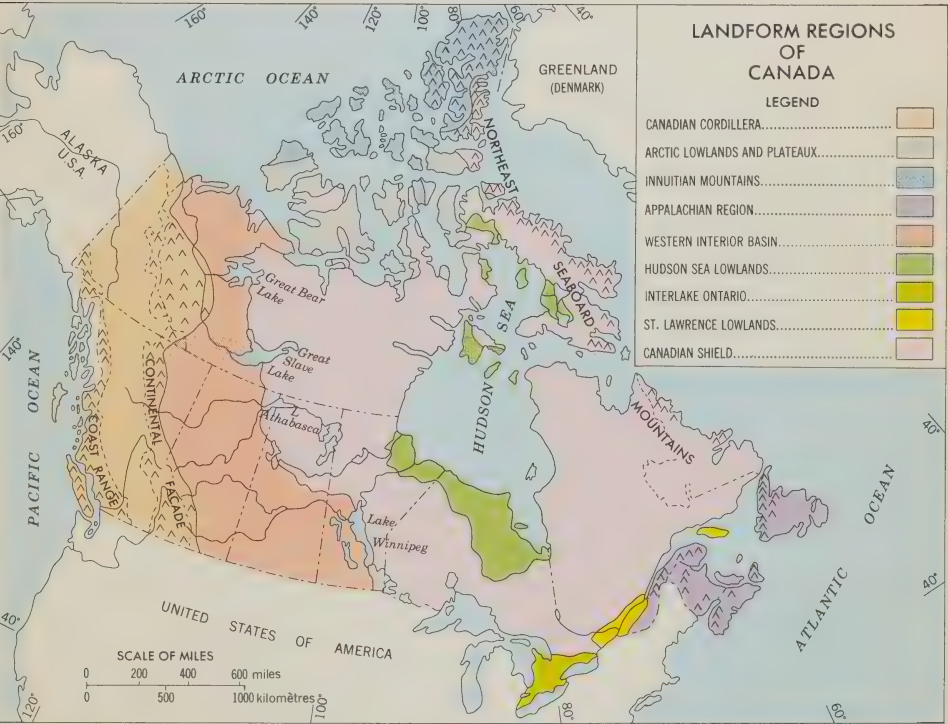
**Canada's physical geography.** The Canadian Shield is 3,500 to 600 million years old. It is dominated by granite and gneiss and constitutes the core around which the geological structure of the continent as a whole organized itself: the nearly horizontal cover of the Hudson Sea Lowlands in the centre, of the Arctic Lowlands and Plateaux in the north, of the Western Interior, of Interlake Ontario in the south, and of the St. Lawrence Lowlands in the east. Later, as in the case of all continents, pleated mountain chains rose around the fringes: in the south-east the Appalachian mountains and hills, consolidated 450 to 360 million years ago; in the north, the Innuitian mountains and hills; and finally in the west the Canadian Cordillera, consolidated 250 to 70 million years ago, where active volcanoes and earthquakes testify to a residue of activity. The shield and its cover witness no such activity, save for a few earthquakes in the vicinity of the Appalachians.

The lands of Canada store a wealth of valuable minerals. Oil, copper, iron, nickel, zinc, natural gas, and asbestos are among the most important.

Like the other continents, North America has mountains, especially at its edges. In Canada, the highest are those of the Western Cordillera, which reach a height of 19,850 feet (6,050 metres) at the peak of Mount Logan; then in the north there is Ellesmere Island, rising to 8,544 feet (2,605 m), and on the eastern rim is Baffin Island, which reaches 8,500 feet (2,591 m); the highest

point in Labrador is 5,160 feet (1,573 m) above sea level, and the Appalachians rise to 4,160 feet (1,268 m) in Mount Jacques Cartier. The Canadian interior is lower. Indeed, in its central area it has even been invaded by the sea — the Hudson Sea — after the final retreat, some 8,000 to 6,000 years ago, of the great glacier which, over the last million years, had repeatedly thickened and spread itself out over the vast expanses of the continent, and which had covered the entire northeastern area with a heavy ice-cap. Under its weight, the earth's crust had gradually subsided. Since the ice-cap's departure, the crust is rising, but slowly, and this accounts for the invasion of the Hudson Sea, which is in fact quite shallow — 70 fathoms (128 m) on the average. The rising up again of the lands has continued into the present in the whole region and beyond, at a rate of several inches and up to 3 feet (about 1 m) per century: indeed, engineers take this factor into account in the construction of ports. Even today there are a few vestiges of the great glacier, from Ellesmere Island to Labrador, and also in the Western Cordillera.

As in all continents, irrigation is greater and temperature spreads are wider in the North American interior. If one excludes the Arctic, the southern part of the Western Interior plains is the region of Canada which has the least water. Everywhere else, however, fresh water is abundant and covers 7.6 per cent of all the Canadian territory above sea level. There are the Great Lakes in the south — Lakes Superior, Huron, Erie, and Ontario which are shared with the United States, and, in the north, Great Bear Lake, Great Slave Lake, and a large number of others. Many of these lakes owe their existence to the





vicissitudes of the erosion brought about by the great glacier, which has disappeared, and a few, to the movements of the land. The rivers, whose beds have been subjected to the same influences, flow into the three neighbouring oceans: the Mackenzie, by far the longest (2,635 miles or 4,241 kilometres) into the Arctic; the St. Lawrence (1,900 miles or 3,058 km) into the Atlantic; the Nelson (1,600 miles or 2,575 km, including the Saskatchewan which runs into it) into the Hudson Sea. Finally, into the Pacific basin flows the Yukon (1,587 miles or 2,544 km) which connects with the Bering Sea through Alaska. For fishing and, more importantly, for hydro-electric energy, irrigation, and industry, fresh water is one of Canada's great sources of wealth. In particular, the Quebec-Labrador peninsula, surrounded by the Hudson Sea, the Atlantic, and the lower St. Lawrence, well irrigated and with a high altitude (1,600 feet or 488 m), has some of the most magnificent rivers and falls in the world. The development of its hydro-electric resources is currently in progress.

In Canada as elsewhere, water pollution is unfortunately on the rise and causes grave problems to the authorities, particularly in the south. However, the battle against pollution has been joined with firm resolve.

**Canada's borders.** Canada's borders with its most important neighbour, the United States, are seldom natural (Great Lakes, mountain crests). Indeed, over 40 per cent of their total length has had to be set by convention along straight lines, preferably following parallels —  $45^{\circ}\text{N}$  and, to the west,  $49^{\circ}\text{N}$  — or meridians —  $141^{\circ}\text{W}$  with Alaska.

The Mississagi River in Ontario.





*The Manhattan and the John A. Macdonald in the Northwest Passage.*

It is the distinction of North America to be first among continents in the expanse of its islands (16 per cent of its surface area) and the second, after Eurasia, in that of its peninsulas (8.5 per cent). This characteristic is very evident in Canada where islands constitute slightly more than 15 per cent of the surface area and peninsulas, 18 per cent. Of all the continental states of the globe it is, along with Denmark, the richest in islands, due mostly to the Arctic archipelago. This affects the length of its shorelines. Because of the peninsulas, the length of its continental shorelines reaches 17,860 miles (or 28,743 km), as noted earlier. The length of the shorelines of its islands is longer still, exceeding 41,810 miles (67,287 km). In all, the length of Canada's shorelines reaches 59,670 miles (96,030 km).

This wealth of islands, separated by straits which are often shallow, will facilitate the expected development of offshore oil, gas, and minerals. Also, after Amundsen's feat between 1903 and 1906, it was a Canadian vessel, the *Saint Roch* which, in 1942, negotiated the Northwest Passage and which in 1944 for the first time also looped the whole of North America, passing through Panama. In 1969, a giant American tanker, the *Manhattan*, accompanied by the Canadian ice-breaker *John A. Macdonald*, negotiated the Northwest Passage by the straits of Lancaster, Barrow, and Melville, and this route, around 74°N, seems destined to become one of those which will be the most frequented in the future. The risks of pollution are great in the event of an accident and, for this reason, Canada concerns itself more and more with all that touches its coastlines and its islands, their development, and the protection of their salubrity and beauty.

ANDRÉ CAILLEUX



## Climate

Whereas weather refers to meteorological conditions at a specific time, climate may be defined as the general or average state of the weather. In a country as large as Canada, there are many climates since conditions vary greatly from place to place. Information about Canadian climates is derived from observations recorded over many years by thousands of weather observers at hundreds of locations across the country. A weather observing station may be equipped only with a rain gauge—a funnel of standard size and shape for catching the rain and measuring it. Other stations have in addition a pair of thermometers mounted in a standard louvered screen which record the highest and lowest temperatures reached each day. The complex meteorological observing installations at airports and agricultural experimental stations are staffed by specially trained technicians to observe and record such things as wind, humidity, radiation, pressure, and cloud, in addition to temperature and precipitation. In all, there are over 2,300 weather observing stations in Canada, of which about 250 are of the more complex type.

Because the weather varies from year to year, it is necessary to maintain weather observing stations over a long span of time in as many locations as possible to ensure that the weather in one or two abnormal years does not unduly affect the record. In temperate latitudes it has been found that a period of thirty years is sufficient to adequately test the normal range of the Canadian climate. However, observations covering a longer period are of interest and help to tell whether or not the climate is changing. Each year the Canadian Meteorological Service receives records of between two and three million individual observations taken throughout the country. By the application of suitable methods, this enormous mass of data is made to yield a clear picture of Canadian climates.

The source of energy for all atmospheric motions is ultimately the solar radiation absorbed by the atmosphere and, to a much greater extent, by the earth's surface. The latter's energy is then transferred to the air by conduction, convection, and long-wave radiation. In Canada during the winter less energy is received from the sun than is given out, and in summer this is true of the northern islands also. The deficiency is made up by the transfer of heat from more southerly latitudes by the exchange of warm air for cold. This is effected by means of counter-clockwise circulation around areas of low pressure which in turn move in a wave-like (and generally west-to-east) path.

As a result of the movement of these lows, locations in Canada are subject to air from a different source every few days. This leads to the continual variation in weather conditions with which all Canadians are familiar. Thus, average values do not tell the whole story and, in fact, the variation is part of the climate, a fact that should be kept in mind when looking at the averages. In Calgary the mean January temperature is  $14.2^{\circ}\text{F}$  but, in the nearly 90 years that records have been kept, values as high as  $61^{\circ}\text{F}$  and as low as  $-48^{\circ}\text{F}$  have been experienced.



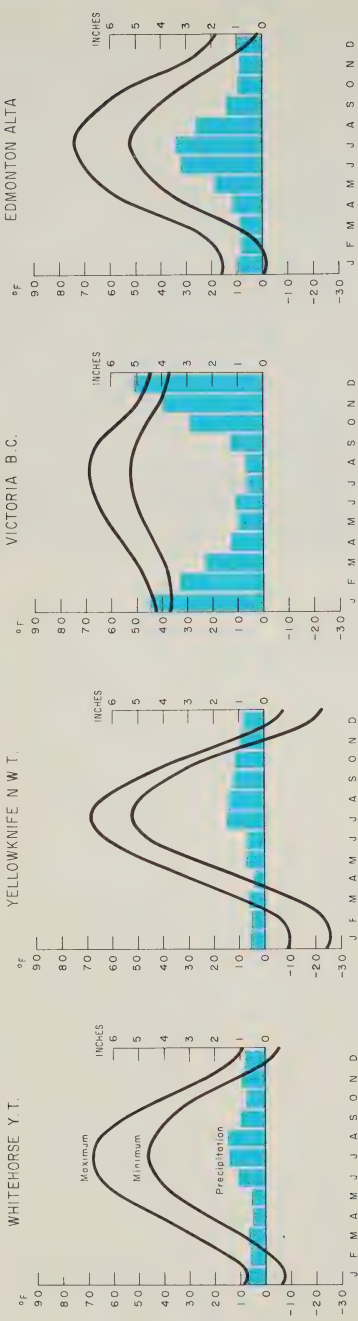


Clouds are a direct expression of the complex processes going on in the atmosphere. Here the thin streaky cloud in the background is being formed at high levels by the slow lifting of air over a very wide area. The billowy cumulus is the result of the ground's being strongly heated by the sun's rays, which produces active convection. Rain is falling from a well-developed cumulus tower in the left background.

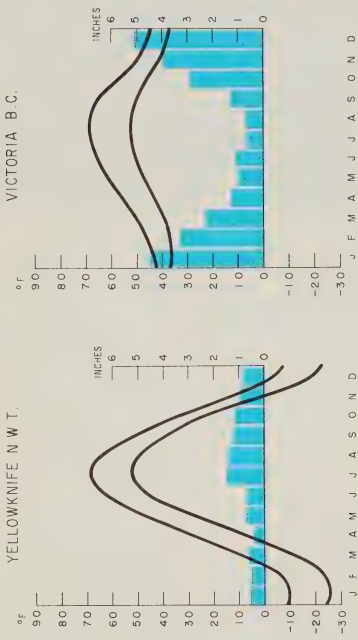
**The British Columbia Coast.** Because of the general west to east movement of air over the coast, and because of the series of north-south mountain barriers across the province, the British Columbia coast is seldom visited by cold air from the northern interior. As a result, temperatures show the relatively small seasonal variation characteristic of large bodies of water, and there are mild winters and cool summers. In summer, an eastward extension of the semi-permanent high-pressure area over the Pacific Ocean brings mostly fine weather to this portion of Canada. In winter, deep low-pressure areas sweep over the coast from the Gulf of Alaska, so that the bulk of the precipitation falls in that season. On-shore winds driven up the windward slopes of the mountains cause heavy rains along the coast. Some places on Vancouver Island experience the heaviest rainfalls in Canada with annual totals of more than 200 inches a year. On the northern section of the coast a large portion of the winter precipitation falls as snow and seasonal totals of 200 to 300 inches are common. The total snowfall at Kildala Pass averaged 765 inches a year over a five-year period.

Temperature and Precipitation Normals

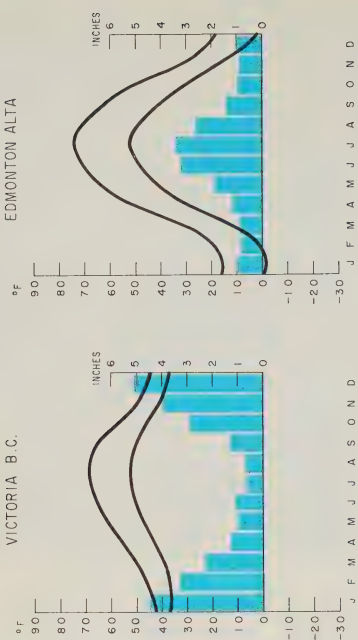
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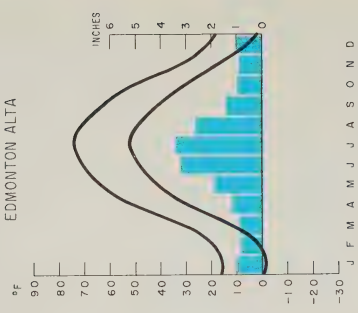
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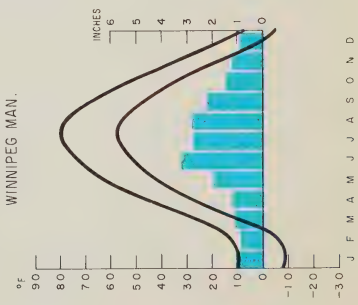
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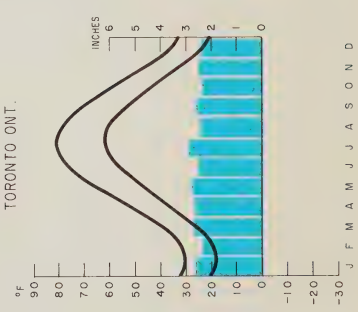
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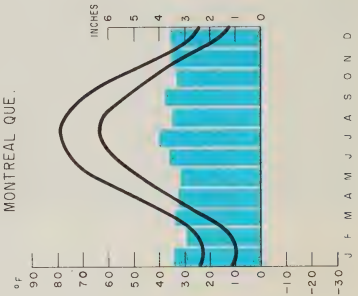
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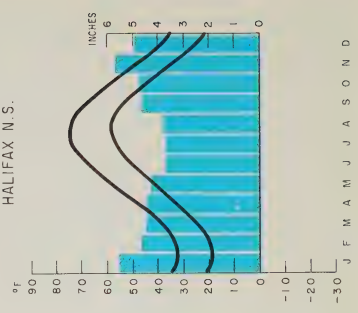
TORONTO ONT.



MONTREAL QUE.



HALIFAX N.S.



**The British Columbia Interior.** By the time they reach the interior of British Columbia the rain-bearing winds from the Pacific Ocean have lost a good deal of their moisture by forced ascent over the mountains, so that the interior valleys of British Columbia are relatively dry. As one moves eastward across the province precipitation increases on the west side of mountain ranges and decreases on the east side. Because it is frequently possible for cold Arctic air to traverse the mountains from the north and east, temperatures are much colder in the interior in winter than they are on the coast and, because the sheltering effect of the mountains excludes the moderating influence of the ocean, temperatures are high in summer, with the daily maximum averaging 80°F or more at many stations. In winter, daily minimum temperatures range from 20°F in the south to well below zero in the northern part of the province.

**The Prairie Provinces.** There are no mountain barriers to protect the Prairie Provinces from cold air moving south from the Arctic, or from warm air moving north from the central plains of the United States. Consequently, this section of Canada shows the widest variation of annual temperature between summer and winter and, in addition, the day-to-day variability can be greater than in any other part of the country. In winter, temperatures are frequently below zero, the absolute humidity is low and winter precipitation is generally fairly light.

Blizzards are a feature of winters on the Prairies. They are characterized by intense cold, strong winds, and snow, with visibility reduced sometimes almost to zero by drifting and blowing snow. In a blizzard the amount of snow falling may be less than one inch but, driven by strong winds, it has a greater effect in dislocating human activities than most other meteorological phenomena. Another feature of the climate of that part of Alberta nearest the foothills is the winter chinook, when warm, dry winds blowing down from the mountains produce a dramatic rise in temperature — a typical rise being from -20°F to +35°F. With a chinook the winds are usually strong and gusty, from 25 to 50 miles an hour, with gusts which may reach or exceed 100 miles an hour. Because the air is dry the snow cover is removed very rapidly and sometimes there is soil drifting. The chinook affects an area extending about 100 miles eastward from the foothills of the mountains, but its intensity falls off rapidly farther to the east.

In summer the prairie air is much more moist than in winter, and although the weather systems crossing the area are relatively weak, they frequently set off thunderstorms characterized by heavy rainfall and hail. Southeastern Alberta and southwestern Saskatchewan experience the driest conditions on the Prairies, and precipitation generally increases from west to east as the rest of Saskatchewan and Manitoba come more and more within the influence of flows of warm, moist air from the central United States. On the other hand, precipitation is relatively heavy in parts of the foothills and in the northern part of Alberta as air is lifted up the foothill slopes in westward-moving circulations.



**Ontario.** Most of southern Ontario and that portion of northern Ontario to the east of Lake Superior have climates that are significantly modified by the presence of the Great Lakes. In addition, the usual general circulation over northern Ontario is more from a northerly direction than that over the Prairie Provinces, giving northern Ontario later springs than the Prairies. In the winter, Arctic air is prevalent in this area, making for cold, dry winters. In the summer a succession of cyclonic storms bring abundant precipitation to the region, although summers are hot for the latitude: many stations have reached 100°F on at least one occasion.

Southern Ontario is protected from the prevailing westerly winds by the Great Lakes so that the summers are cooler and winters milder than those in eastern Ontario or in the United States west of the Great Lakes. In July, for example, mean temperatures range from 64°F to 70°F in Ontario, while in Minnesota at the same latitude the corresponding value is about 72°F. The corresponding mean temperatures in January are 18°F to 24°F in Ontario, and 11°F in Minnesota. The effect of the lakes is most marked at places along the shore, particularly in summer when sunny days bring cool lake breezes which tend to lower the maximum temperatures. Summer in southern Ontario, however, is occasionally marked by the invasion of warm, humid air from south of the lakes. Precipitation is evenly distributed throughout the year as the contribution from the more intense and frequent storms of winter is matched by precipitation from the less well-developed storms and thunderstorms in the warmer, moister air of summer. Annual precipitation ranges from 30 to 40 inches.

**Quebec.** Quebec exhibits a wide range of climates because of its vast expanse. In the northern and central parts of the province winters are cold and summers, although relatively short, are warm. In the southern part of this area, particularly along the north shore of the Gulf of St. Lawrence,

Mont Vallin in the Saguenay region of Quebec.



snowfall is relatively heavy, the annual average exceeding 100 inches. In the lowlands of the St. Lawrence River Valley the climate is much like that of southern Ontario, although the temperature reaches greater extremes because the Great Lakes have little, if any, moderating effect on this part of the country. This makes the climate more continental in character, with about the same summer temperatures as Ontario, but somewhat colder winters.

Snowfall is heavier and more persistent because of the colder winter temperatures, which in January average 15°F in Montreal, 10°F in Ottawa, and 24°F in Toronto.

**The Atlantic Provinces.** The climates of the Atlantic coast of Canada are more continental than those of the Pacific coast because of the circulations from the west which frequently bring flows of continental air over the region. A common storm track is parallel to the Atlantic coast, and these storms, when well developed, may bring strong winds and heavy precipitation to the coastal areas. In winter precipitation frequently takes the form of rain along the Nova Scotia coast, and of snowfall in New Brunswick, with freezing precipitation sometimes occurring in the intermediate zones. Summers are generally cool, although temperatures in the 90's are not unknown, particularly in New Brunswick, the most continental of the Maritime Provinces.

The Island of Newfoundland and the Labrador coast are occasionally invaded by moist maritime air bringing heavy snowfall or rainfall. In climate, Newfoundland is the most maritime of the Atlantic Provinces, and this is most evident in spring and summer, which are quite cool by Canadian standards. Storms moving up the Atlantic coast of the mainland frequently pass over eastern Newfoundland, bringing strong northeasterly winds, rain, or snow. Labrador experiences the same general type of east-coast weather as the rest of the region but, being considerably farther north, temperatures are lower and the greater proportion of the precipitation falls as snow. Arctic air masses moving southeastward over Labrador are unmodified and consequently winter temperatures are very cold.

**The Yukon and Northwest Territories.** The basic temperature control in Canada's north is its high latitude, since a great deal of the area lies above the Arctic Circle. As a result, much of the region experiences the polar night. Even in summer when the days are long, the low angle of the sun at noon prevents the solar radiation from providing the same heating as it does further south. During the winter, the surface is snow- or ice-covered and this, combined with the deficiency of solar radiation, leads to very low temperatures. As a result, massive high pressure areas are formed which prevent the influx of warmer air from the south. Temperatures during the long winter remain below zero in much of the north, and mean temperatures are as low as -35°F in February in the northern part of the Arctic archipelago. While the average temperatures are lowest on the northern islands, the extreme values are usually reported from the Yukon Territory, where the lowest temperature reported anywhere in North America, -81°F, occurred at Snag.

## The Canadian Landscape

Canada is bounded by three oceans. Looking north, its vast Arctic archipelago fritters off towards the pole, white in the winter, blue in the summer of midnight sun. To the east, the Atlantic washes into the fiordlands of Baffin and Labrador, and deep into the St. Lawrence River, and swirls around the dissected coastlines of the Atlantic Provinces. To the west, the Pacific draws a straighter line against rocks and beaches and islands.

The literature and art of Canada have revealed some of the features of its many landscapes. They have also shown how Canadians react to their environment and how they have managed their resources. Much has been made of the pioneer spirit of Canadians and of their struggle against hostile elements. To live with the long, cold winters, to travel on ice and through snow, to fell dark forests, and to plough sometimes ungrateful soil — all of this is Canadian history.

But the managers, some time ago, replaced the pioneers, and a great economy is now based upon industrial exploitation. The latter is directed from urban centres where the majority of Canadians now dwell. But the humanized landscape of this vast area retains the stamp of its natural cast, and Canadians are increasingly aware of a wealth in rocks, plants, and animals that is not necessarily exploitable for direct economic profit but that must be preserved as a frame for happy living. All civilized societies have willingly paid a price for non-marketable amenities that they valued.

### CANADIAN ECOSYSTEMS

The ecologist, who does not yet exercise the influence of the economist, is at last being heard and his definitions will serve increasingly to identify the qualities of human environment that are worth preserving, and that should become better integrated in the modern pattern of living. His outlook is based upon the *ecosystem*, the fundamental unit of environment which consists of living populations (microbes, plants, animals, men) that exploit the resources available to them. The latter are: heat, energy, and light from the sun, moisture and water in the air and soil, and a complex assemblage of gases, liquids, and solids in the atmosphere and in the soil. Plants and animals are *products* of the cycling of nutrients from air and soil, but they also serve as food for each other and their tissues are eventually returned to the environment and potentially re-cycled.

Thus, a pond, a forest, and a city consist of measurable qualities and quantities of resources. The agents that are responsible for their cycling each have their place in more or less complex food-chains and energy conversions. Whereas the pond and the forest may be fairly self-sufficient, renewing every year their provisions of food and energy, a city is more complex and depends very largely upon the import, for instance, of plant and animal substances. On the other hand, it conveys powerful information



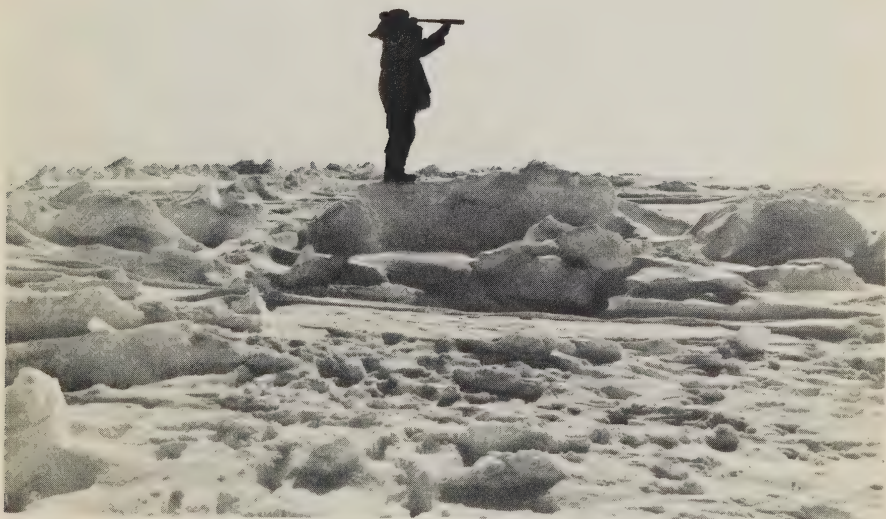
that strongly influences the investments made in forests, farms, industries, suburbs, and in the wild lands themselves.

A landscape is a *mosaic of ecosystems*. A valley, a mountain, a river, or a city, harbour a variety of living organisms that *share its resources*. These resources are more or less *renewable* and the organisms are *agents* variously capable of transforming them into more or less stable *products*. In this light, the potential yield of Canadian landscapes is very uneven although it ranges through a broad gamut of types.

At the highest level, climate exerts major control and permits a rough segregation into zones: arctic, subarctic, montane, boreal, central, western temperate, eastern temperate. Within each zone, minor climatic variations, topographic accidents, landform distribution, and soil-formation allow different ecosystems to emerge. These are occupied by plants and animals that were subjected in the past to various adversities (not the least being glaciation) that have caused them to migrate.

**Arctic Tundra.** Permanently frozen ground allows only a small biomass to develop. Most plant-communities, except under the most barren conditions, are very unstable. Animal populations likewise fluctuate greatly: small rodents (lemmings) are virtually absent some years and then rise to swarming invasions.

An Eskimo hunter from Igloolik looking for seal near the floe edge of Foxe Basin.

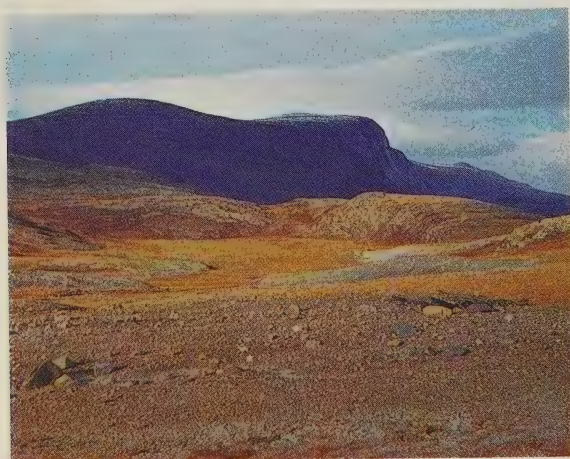


The abrupt fiordlands of Baffin Island, with their cliffs and screes, their vast gravelly outwash plains, their low domed hills, their coastal strands and marshes, and their permanent ice-caps fringed with yearly-melting snow-patches have a varied repertory of ecosystems: the sedge and grass marshes are teeming with bird-life in the summer as are some of the island cliffs whose dwellers feed on sea-creatures. The rocky shores and ice-shelves have an abundant sea-mammal population.

The more barren dry and flat lands support a patchy tundra of dwarf willows, bilberries, rosebays, and crowberries interspersed with the flowering saxifrages, buttercups, sandworts, louseworts, and tufts of woodrush and sedge. Herds of caribou graze and browse upon these plants and upon the ever-present caribou lichen (*Cladonia*).

The low plains of the Mackenzie River, on the other hand, show a vast expanse of wet meadow, interrupted by moss-choked bogs and reticulated with streams that are bordered with willow screens.

The greater part of this territory is nearly primeval, but it reveals itself extremely vulnerable to man's impact: irreversible destruction of some permanently frozen soils and oil pollution in the waters.



Clyde Fiord, Baffin Land, in the late summer. Many-coloured lichen on Digges Island, N.W.T. (above). Buttercups and alpine willow-herb in the tundra.

**Subarctic Parkland.** Whereas the tundra is treeless, the vast zone that extends across all of northern Canada above the boreal forest shows spruces, larches, firs, pines, and birches in clumps or isolated or in open, regular formations, with a variable undergrowth of tall shrubs (alders, juneberries, cornels, honeysuckle, willow) and low shrubs (mostly of the heather family: lambkill, Labrador tea, blueberries); and a carpet of mosses and lichens (mostly *Cladonias*) with tufts of grasses and other herbs.



The patterning of the Subarctic undergoes many variations from the north where the trees are shorter, and where patches of tundra occupy the high and dry sites, to the south where the trees are both taller and closer and the undergrowth more lush and where the water-course edges and protected topography allow full development of coniferous forest.

Much of this zone overlaps the Canadian Shield, and is constellated with lakes often in the process of being invaded by bog mats. Closed basins are numerous and muskeg overwhelms much of this landscape: extensive floating (but eventually grounded) blankets of leatherleaf and other low shrubs anchored in a matrix of Sphagnum moss cover the ground, whereon advancing rows of spruce and larch invade from the edges.

No really profitable lumber can be extracted from this zone, but several valuable mineral deposits have given rise to modern towns.



The mining town of Hendrix Lake, B.C.

**Boreal Forest.** From Newfoundland to British Columbia and the Yukon, the spruce and fir forest, so aptly called the *Canadian forest*, is virtually uninterrupted. In the east the species are few: white and black spruce, balsam fir, larch, white birch, jack pine, and also red and white pine (more abundant southward, however). In the west, there are many more species of spruce, pine, fir, larch, hemlock, and also Douglas fir, and many others. However, at the lower altitudes, the Canadian forest is structurally quite





Autumn colours, near Dorset, Ont.

uniform, with its tall, spire-like trees, evergreen needle-leaved, its few and very scattered small trees (such as mountain ash, junberry, cornel) and its carpet of feather-mosses with tufts of flowering herbs (woodsorrel, bunchberry, twisted-stalk, goldthread).

This forest, on the undulating Canadian Shield, in the flat lands north of the Prairies, and on the foothills of both sides of the Rockies, is broken by streams that harbour a rich floodplain forest of willows and balsam poplars; by cliffs with hanging tufts of fern and bluebells, by flat marshes with tall rushes and cat-tails, and by closed basins with extensive bogs.

The bird-life is extremely abundant, as wave upon wave of migrants stop at each latitude, whether to feed and rest on their way to Subarctic or Arctic breeding grounds, or indeed to breed within the forest boundaries, among the trees, in the marsh or the bog, or on the cliff ledges. This is also the home of the moose, which feeds upon water-lily rhizomes in the summer and upon the buds and bark of shrubs in the winter, of the omnivorous black bear, of many kinds of squirrels and smaller rodents. The lakes and streams are rich in fish-life. The insect swarms, especially of mosquitoes and other flies, hang like a haze over the humid ecosystems.

Mining towns, agricultural market towns, and lumber industries are the nerve-centres of the Canadian forest which is also a vast sporting-ground with many extensive national and provincial parks.

**Alpine reaches.** In the Rocky Mountains and on the coastal ranges, a complex succession of vegetation zones marks the colder climate of increasing altitudes. Above the storey suitable for boreal forest, a subalpine parkland develops which is in many ways similar to the Subarctic parkland. And above this, the lowering size of the trees ends in a very dense scrub where spruces or pines are flag-shaped by winds and are frost-bitten.

Beyond this timberline, an alpine tundra prevails, which is similar to the Arctic tundra. In some locations it is very nearly identical with it inasmuch as many plants (the moss-campion, many saxifrages, sandworts, sedges, bilberries, and so on) belong to the same species. This also applies to alpine and subalpine situations in northeastern Quebec and Labrador.

The alpine climate, however, differs significantly from that of the Arctic: the warmth of the summer days, the usual absence of permafrost, the deeper soils, all tend to favour a lush vegetation. The presence of many plants unknown to the Arctic frequently give the alpine landscape a brighter, more colourful cast.

The Rocky Mountains also have a rich fauna of butterflies, of small rodents, and of unusual ungulates such as mountain sheep and mountain goat.

The human enterprise at the alpine level is virtually confined to hiking and similarly non-exploitive activities.

A moose in Banff National Park, Alta.





**The Prairies.** A large arcuate wedge of drought juts northward from the American boundary into Manitoba, Saskatchewan, and Alberta: this is the Canadian Grassland. Within its confines it has many variants of tall-grass, mid-grass, and short-grass, the latter in the drier and higher parts. The primeval prairie and steppe plant-communities were also indicative of soil quality, from the rich chernozem with its deep black layer, to the near-desert soils of the erodable steppe. Most of the original Canadian grassland cover was "mixed prairie" with varying amounts of needlegrass, gramagrass, wheatgrass, dropseed, and fescue. Associated broad-leaved herbs were pasque-flower, goldenrod, yarrow, bedstraw, phlox, pasture sagebrush, and a few shrubs such as bearberry, shrubby cinquefoil, wolfberry.

The latter play an increasingly conspicuous role in the great arc that hems in the grassland to the north and is known as the aspen parkland. This consists of medallions of vegetatively propagating aspen groves, ringed by a shrubby buffer in a vast matrix of grassland. The river bluffs, the dunes show a varying tapestry of creeping juniper, choke-cherry, and dune-grasses. The warmer and drier areas have small salt-lakes with typical salt-tolerant plants (glasswort, saltbush).

Most of the primeval grasslands have been ploughed, however, and this zone has become the granary of Canada; its abundant wheat crops have fed





many other parts of the world. It turns out to be rich in oil and potash, so that the agricultural landscape is locally blotched with industrial development patterns.

**The Pacific Coastal Forest.** The warm-temperate and very humid conditions that pervade the southern British Columbia coast allow the continuance of a kind of temperate rainforest dominated by giant hemlocks and cedars, with an understorey of evergreen madrone, of large-leaved maples, of dogwood and alders, and of tall, luxuriant ferns. Mosses and lichens frequently cover the trunks and limbs of the trees.

No area produces more magnificent timber. Its rapid growth makes for efficient cyclic utilization. The climate of some of the valleys is most favourable to fruit growing. The rivers and streams support an extremely abundant fish-life, especially salmon, which forms the basis of an important industry.

**The Eastern Temperate Forest.** The Eastern Great Lakes and the upper and middle St. Lawrence were originally invested with hardwood forests where maple, beech, and yellow birch were dominant with local admixtures of hemlock. Black cherry, basswood, ash, red oak, and butternut were minor components. In the warmer areas white oak and hickories were also important. The seasonal changes in this ecosystem are striking, with an abundant development of low flowering herbs (trillium, Solomon's seal, spring-beauty, dog-tooth violet) in the spring light and a rather thin scattering of taller summer herbs (sweet cicely, aster, goldenrod) in the full shade of summer.

Extensive floodplain forests in the expansive alluvia of the great rivers, lakes, and streams are composed mostly of elm, soft maple, and ash, and likewise show a luxuriant spring wave of large-leaved plants (skunk-cabbage) and a summer aspect of densely growing herbs (touch-me-not, Canada nettle) rooted in the now well-aerated soil. Marshes with dominant cat-tails and bulrushes, fens with thickly tangling willows, alders, and red-osier dogwoods are also common. The disturbance caused by the glaciers and by the subsequent re-patterning of watercourses has made for alternating dry gravelly and sandy benches and ridges where the small wire-birch and the tall white pine dominate, and more or less closed shallow basins where peat has accumulated and a southern variety of muskeg prevails, with scattered larches and black spruces, a dense mat of leatherleaf, and a number of pitcher-plants and brightly-coloured orchids.

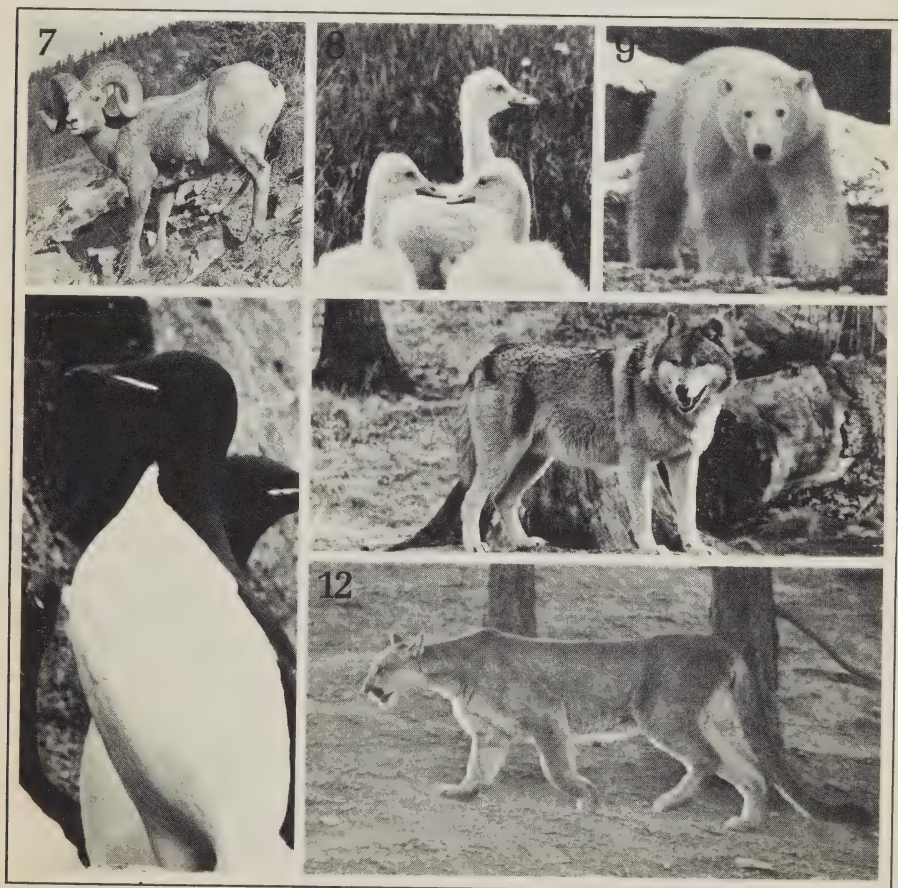
This is the older part of Canada, with its traditional agriculture (mixed or dairy-farming, specialized crops, horticulture, orchards) and ever-growing industry and urbanization that have caused the retreat and sequestering of wildlife, the disappearance of trout and salmon, the pollution of water, air, and land. Parks and reserves are rather few, it is true, but new concepts of parkway projects, of greenbelts, of urban design promise an improved reclamation of the natural elements of the landscape.

# The Preservation of Wild Life

1. Ipswich sparrow. 2. Grey seal. 3. Whooping crane. 4. Musk ox. 5. Peregrine falcon. 6. Grizzly bear.



7. Mountain goat. 8. Whistling swan cygnets. 9. Polar bear. 10. Brunnich's murre. 11. Timber wolf. 12. Cougar.





When one thinks of endangered species of animals, one usually has in mind those that face almost immediate extinction. However, recent history teaches that some species which are not today in short supply may nevertheless be facing extinction. Both the bison and the passenger pigeon were present in millions only a few years before they became scarce in the wild or extinct. Other species, now abundant, are in the same precarious position as the bison was years ago. This is the case, in particular, of certain species of waterfowl which are of considerable interest to hunters who, in North America, shoot between 10 and 16 million of these birds a year. In a short time, the numbers of certain species of waterfowl could be greatly reduced if there were difficulty in their breeding or wintering grounds that reduced their reproductive potential, and if hunters still took as many birds as they currently do. Species now abundant are also vulnerable to damage through environmental catastrophe like the release of a large quantity of oil into waters they frequent in the course of their migrations.

When the breeding grounds of some of the whooping cranes were discovered in Wood Buffalo National Park, in 1954, public interest was great. Many schemes were proposed to protect these grounds and to ensure that the remaining cranes would be able to multiply and go their way without interference from man. Inaccessibility provided protection to that breeding ground, and the only other action that could be taken was to alert the public — hunters in particular — to the plight of the birds and to urge co-operation to ensure that none would be accidentally injured or killed. The success of the program is evidenced by the fact that, although the birds make a 1,500-mile flight twice a year across some of the most heavily hunted areas in North America, few have been shot and their number in the wilds has slowly risen from 28 to 56. Now, when an announcement is made about the status of the whooping cranes or about the number of young observed at the breeding grounds, the item is carried by news services not only in North America but also in many parts of the world as well.

Other kinds of birds also face problems. The little Ipswich sparrow, of which there are only a few thousand, nests exclusively on Sable Island, N.S., and migrates down the New England coast. Sable Island has not changed much over the past few hundred years, but if this habitat should change markedly due to oil development, the breeding area might be lost. A more likely problem, however, is the great proliferation of summer cottages and other developments along the New England coast where the birds stop on their migration flight. Should this territory become so built up as to render it impossible for the birds to rest and feed normally, that occurrence alone could cause their extinction.

Mammals too are threatened. Fifty years ago the survival of musk-oxen was a matter of great concern. By the time restrictions had been placed on the slaughter for human use of musk-oxen, it was feared that their numbers had already been so reduced that they might become extinct. Fortunately, however, the protection provided to the mainland herds by the Thelon Game Sanctuary and by restricted hunting in the Arctic islands made possible the survival of the species and there are now several thousand musk-oxen

in Canada where at one time there had been only a few hundred.

Polar bears have long been slaughtered for food and other needs by native peoples in northern Canada. Recently, concern has arisen about the basic stocks of bears and about how much use can be made of them without decreasing their numbers. The size of the world's population of polar bears is not known and is difficult to determine. What knowledge there is of the annual shoot, of the age at maturity, and of the normal reproductive rates of the bears, has led to the hypothesis that a basic stock of about 20,000 polar bears in the Arctic would be required to ensure that only the "interest" (or increase in population) is being hunted, and not the capital stock. Canadian scientists have not found 20,000 bears in the parts of the Arctic examined nor have their colleagues in other Arctic countries. However, together these scientists are making studies for the purpose of developing measures to ensure the survival of the species.

In this research tunnel furnace the components, including pollutants, of all fuels are revealed by the colour of the flame. Blue flame combustion indicates that pollutants are at a minimum.





## Urbanization

In the space of little more than one hundred years, Canada has been transformed from an overwhelmingly rural into an essentially urban country. Ever since the first quarter of the nineteenth century, its level of urbanization has been above the world average, and it is today among the most highly urbanized countries in the world.

The first census in New France, undertaken in 1666, revealed a total population of about 5,000 people. The populations of the major towns — Montreal, Quebec, and Trois-Rivières — were each under one thousand. By 1795, the populations of Montreal and Quebec had both grown to more than 5,000 people, thereby surpassing the size of the entire colony of a century earlier. By about 1825, the population of Montreal had reached 32,000, that of Quebec 22,000, Halifax nearly 15,000, and Saint John over 8,000. At the same time, however, York — the future city of Toronto — had a mere 2,000 inhabitants. On the whole, some 8 to 10 per cent of the population of Lower Canada, Upper Canada, and the Maritime Provinces could be said to have become urbanized. About a quarter of a century later, in 1851, the proportion of urbanites in Canada had risen slightly to around 13 per cent. Montreal had over 50,000 people, Quebec and Toronto over 30,000 each, and Halifax and Saint John over 20,000 each. The growth of cities notwithstanding, Canada came into existence in 1867 as an overwhelmingly rural country.

Since then, however, the process of urbanization has been steady and uninterrupted: in every decade since Confederation, with the single exception of the 1930's, urban population in Canada has increased by 5 per cent at least.

New apartment buildings in the west end of Vancouver, B.C.





By 1961, nearly seven out of every ten Canadians lived in cities. More recent data suggest that by now three quarters of the population may be classified as urban.

**Urban Population in Canada, as a Percentage of Total Population,  
1851-1961 and 1966**

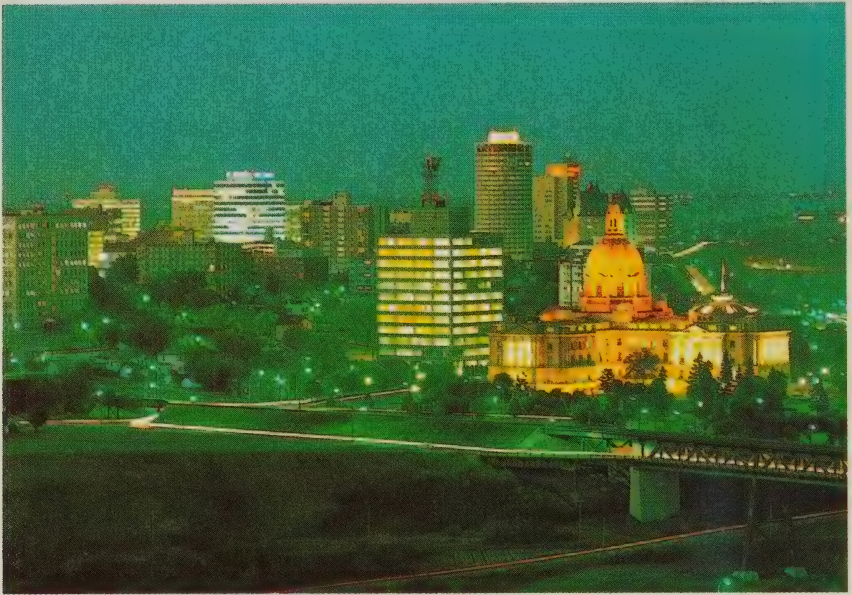
Census Year	Urban Population (% of total population)	Decennial Increase
1851	13.1	—
1861	15.8	2.7
1871	18.3	2.5
1881	23.3	5.0
1891	29.8	6.5
1901	34.9	5.1
1911	41.8	6.9
1921	47.4	5.6
1931	52.5	5.1
1941	55.7	3.2
1951	62.4	6.7
1961	69.7	7.3
1966	73.5	7.6 <sup>1</sup>

<sup>1</sup> Linear extrapolation for the decade.

Source: Leroy O. Stone, *Urban Development in Canada* (Ottawa: Queen's Printer, 1967), Table 2.2; and the 1966 Census.

Urbanization has not been even throughout the country. Only three provinces — Ontario, Quebec, and British Columbia — have levels of urbanization equal to or above the national average. Nor has urbanization been even from city to city, as may be seen in the Table below which gives population growth in this century in the sixteen principal regions of metropolitan development. This Table shows that the largest concentrations of urban population occur in certain regions, notably the region along the lower Great Lakes and the St. Lawrence River, which contains eight of the sixteen urban centres referred to above. Moreover, Montreal and Toronto (both within this region) are each more than twice the size of any other city in Canada; their combined population amounts to nearly one quarter of the population of the entire country. To summarize in very broad terms, therefore, out of every four Canadians, one lives in Montreal or Toronto, two live in some other metropolitan area, and one lives in a rural area.

Urbanization, however, has meant a great deal more than simply movements of population. It has been at once the cause and the effect of many interrelated phenomena, including changing patterns of economic activity; developments in technology, especially in the fields of transportation and communication; and changes in the whole "quality of life" in Canada, including the institutions, the values, and the behaviour patterns of its people. In respect of some of these criteria of urbanization — rather than place of residence, the criterion on which all these statistics are based — not just three out of four but virtually every person living in Canada is now "urbanized." He may live on a farm, for example, but he is nevertheless a full member of what is essentially an urbanized society.



Edmonton, Alta. at night. The Legislative buildings are on the right.

### Population Growth of the Principal Regions of Metropolitan Development in Canada, 1901-61 and 1966

Principal Regions of Metropolitan Development	POPULATION (in thousands)							
	1901	1911	1921	1931	1941	1951	1961	1966 <sup>1</sup>
Halifax .....	51	58	75	79	99	134	184	193
Saint John .....	51	54	61	63	71	78	96	101
Quebec .....	117	133	158	207	241	297	383	413
Montreal .....	415	616	796	1,086	1,216	1,504	2,156	2,437
Ottawa .....	103	133	168	197	236	296	436	495
Toronto .....	303	478	686	901	1,002	1,264	1,942	2,158
Hamilton .....	79	112	154	190	207	266	359	449
Kitchener-Waterloo .....	53	63	75	90	99	126	177	192
London .....	52	61	74	87	97	129	181	207
Windsor .....	22	32	66	117	129	163	192	212
Sudbury .....	16	30	43	58	81	110	166	117
Winnipeg .....	48	157	229	295	302	357	476	509
Edmonton .....	15	48	87	116	136	211	374	401
Calgary .....	8	56	78	103	112	156	290	331
Vancouver .....	—	—	224	338	394	562	790	892
Victoria .....	—	—	64	70	86	122	162	173

<sup>1</sup> The population figures for 1966 refer to the standard metropolitan area; this is in some cases a slightly smaller area than the Principal Region of Metropolitan Development, a concept developed especially for historical series.

Source: Leroy O. Stone, *Urban Development in Canada* (Ottawa: Queen's Printer, 1967), Table L.5; and the 1966 Census.



Complex roadways, such as these expressways in Montreal, Que., carry traffic to city centres.

The transformation of Canada from a largely rural to a fully urbanized country has brought with it many problems, ranging from poverty to pollution. Government at all levels has sought to respond to the challenge; new agencies, new programs, and new strategies have been and are being developed. The business and industrial community has begun to recognize the implications of its role in shaping the urban environment. In Canadian universities, there is a growing awareness of the need for education and research in urban affairs; five graduate schools of urban and regional planning and a large number of other faculties and programs in areas related to urban studies now exist in various universities across the country. Much remains to be done, of course, but Canadians continue to demonstrate their confidence in the future of their cities by continuing to flock toward them in undiminished numbers. By the year 2000, it is possible that nine out of ten Canadians will live in cities.

TIMOTHY CARTWRIGHT



# The People

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## History

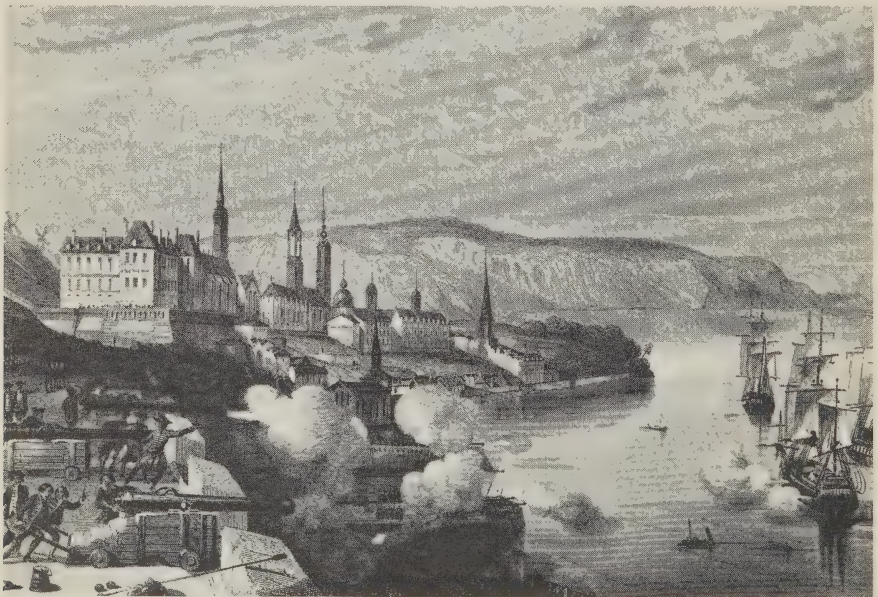
Canada is an independent nation in North America composed of two predominant linguistic and cultural groups: French and English. To these two major groups, and to the small native population of Indians and Eskimos, have been added over the last hundred years many thousands of immigrants representing the major European cultures. For the most part these immigrant groups have associated themselves with the English-speaking community, though maintaining many aspects of their mother cultures. The country has thus never been a homogeneous melting pot, but has rather had the aspect of a cultural mosaic in which the major pattern is traced in the colours of the French and English cultures.

Much of the country's history can be viewed as a continuing search for accommodation and co-operation between the two major cultural communities, and the integration of newcomers into the basic pattern. At the same time, as this internal accommodation has been working itself out, the country has passed through a dual process of self-definition in relation to the outside world. The first of these processes has been the evolution of

the country from the status of a colony within the British Empire to the stature of independent nationhood within the Commonwealth. The second, more subtle and often more difficult process has been in defining and defending its independence in relation to the power and prestige of its enormous neighbour, the United States. These two themes of internal bicultural accommodation and external self-definition underlie and affect nearly every other development in the Canadian past: patterns of settlement, institutional growth, economic development, foreign policy, cultural evolution.

The exploration and settlement of North America by Europeans began seriously at the beginning of the seventeenth century. There had, of course, been earlier voyages dating back as far as the Norsemen, but concentrated efforts had to await the emergence of the powerful nation states of Europe. From the earliest beginnings the French and English established competitive settlements and trading centres. The English moved in from the north through Hudson Bay in the 1670's but the French had already penetrated the continent through the vast St. Lawrence River more than half a century earlier. To the south were the Dutch on the Hudson, soon to be pushed out by the British, and the Puritan settlements in New England. As these colonies grew, so did competition for the hinterlands. The French pressed north and westward to challenge the English on Hudson Bay. And traders from the

In 1690 governor Buade de Frontenac successfully repulsed an English attack on Quebec. Etching by Rouarque frères.





two communities, with the aid of their Indian allies, struggled for control of the rich Ohio valley. It was this competition, and the rivalry of France and Britain in Europe, which ultimately brought war and the downfall of the French Empire in North America. But before that event took place New France had sunk deep roots along the banks of the St. Lawrence and in Acadia.

The first half-century of New France's existence, down to 1663, had been characterized by near-failure on all fronts: settlement, missionary activity, and trade. Yet it was this struggling period that provided later generations with a sense of an heroic past when the tiny colony struggled for survival against the elements, the Iroquois, and the English. From these years came the heroes and martyrs, both religious and secular: Brébeuf and his brethren who died in their effort to bring Christianity to the Indians; Dollard and his young companions who died defending the colony and its trade at the Long Sault in 1660.

Yet by 1663 the colonists numbered fewer than 2,500 and the future was bleak. It was only saved by the decision of Louis XIV to assume direct control of his North American possessions. The establishment of royal government was accompanied by an infusion of new settlers, trained civil servants with plans for economic development, and troops to defend the colony. Though the colony's economy became somewhat more diversified it remained dependent upon France on the one hand and the fur trade on the other. By the 1740's French-English rivalry in Europe, North America, and elsewhere in the world brought the beginnings of the war that was to spell the end of New France. The final phase of that war began in 1754 and was concluded by the Treaty of Paris in 1763 when France's major North American possessions were ceded to the British.

The British Conquest of Canada, a major event in the country's history, temporarily united North America under the British flag. Within two decades that unity was permanently destroyed by the success of the American War of Independence. Yet in the intervening period the French-speaking inhabitants of Canada, numbering about 70,000 at the time of the Conquest, had continued to exhibit their capacity to survive. Faced with growing unrest in the thirteen colonies, the British authorities in Canada gave up an early attempt to assimilate their new subjects and granted recognition, in the Quebec Act of 1774, to the major institutions of the French-speaking community: its civil laws, its seigneurial system, its Roman Catholic religious organization. The efforts of the revolting colonies to add Canada and Nova Scotia to their cause failed. But during and after the war thousands of Loyalists fled northward, settling in Nova Scotia, what was later to become New Brunswick, and to Canada both in the Eastern Townships and the western region of the colony north of Lake Ontario. It was in this fashion that the first substantial group of English-speaking settlers established themselves in the predominantly French-speaking British colony. Here was the beginning of the pattern of Canada's future development.

The coming of the Loyalists required new constitutional arrangements. The Constitutional Act of 1791 divided the old Province of Quebec into



In 1821 the Hudson's Bay Company built Lower Fort Garry facing the French Fort Rouge in what is now Manitoba. Painting by the 19th century artist Frank Lynn.

two colonies, Upper and Lower Canada, and granted each its first representative assembly, an institution which had existed in Nova Scotia since 1758. It was within the context of this constitution that the colony began to grow economically and demographically. It was also within this context that a struggle took place for internal self-government or responsible government. That was achieved in 1849 but only after abortive rebellions in the two Canadas in 1837 and the reunification of the two colonies in 1841.

By the middle of the nineteenth century the British colonies in North America — Canada, Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland — were ready to move haltingly toward a new stage in their constitutional development. Each colony separately faced an increasing burden of public expenditure in the age of canal and railway building. Each, too, was faced with limited markets, since the coming of free trade in Britain had ended their preferential treatment within the Empire. In the Canadas there was the additional problem of growing political deadlock and threatening cultural conflict in a union based upon equality of representation for each of the two sections. And, finally, in the 1860's, there was the threat of an increasingly hostile United States just emerging from its bloody civil war. These events, plus the encouragement of Britain anxious to reduce its commitments in North America, resulted in a decision in 1865 to move toward a federation of all British North America.

That federation was partially achieved on July 1, 1867, when the Canadas, Nova Scotia, and New Brunswick joined together in Confederation under the British North America Act. This constitution was the work of an energetic group of British North American politicians including John A. Macdonald,

George Brown, George-E. Cartier, Alexander Galt of Canada, Charles Tupper of Nova Scotia and Leonard Tilley of New Brunswick. Their combined political skills and legal talents were severely tested in the foundation of "the new nationality." The constitution was a highly centralized federal scheme which made the central government clearly dominant, but left to the provinces those matters which they considered to be of purely local concern. The French and English languages were established as official in the federal parliament, its records, and its courts, and the Province of Quebec was also recognized as an officially bilingual province. The new nation was a parliamentary monarchy operating according to the well-understood principles of cabinet government. The Parliament of Canada at Ottawa was composed of the Crown's representative, the Governor-General, and a bicameral legislature, the House of Commons and the Senate.

At the outset the plan was incomplete for it was intended that the territory of the new nation should stretch from coast to coast. The first step was the acquisition of the lands owned by the Hudson Bay Company in the west. This was quickly achieved but the first new province, Manitoba, was only established after a rebellion in Red River led by a young Métis, Louis Riel, was defeated. The province was established in 1870. A year later the Pacific coast province of British Columbia entered the union on the promise that a transcontinental railway would be built. Two years later Prince Edward Island was added. In 1874 the extensive lands between Manitoba and British Columbia were organized as the Northwest Territories. This area, in 1885, was the scene of a second uprising of Métis and Indians again led by Louis Riel. The completion of the Canadian Pacific Railway in that same year made it possible for the Canadian authorities to defeat the rebels, and this time Riel was captured, tried, and hanged for treason. Twenty years later, in 1905, the provinces of Saskatchewan and Alberta were added to the union. The last of the ten provinces to join Canada was Newfoundland in 1949.

Once the basic structure was established, the federal Conservative Government, led by Sir John A. Macdonald, proceeded to develop policies to fill out the skeleton. The railway, binding together the various far-flung sections was the first developmental policy. But along with it were immigration programs to populate the open spaces with agricultural settlers and a policy of tariff protection, announced in 1879, to develop a Canadian industrial system. It was the Macdonald Government's determination to build a national economy on an east-west axis independent of the United States.



Statue of Louis Riel in Regina, Sask.





The past is evoked in Barkerville, B.C., which sprang up after Billie Barker found gold in 1862.

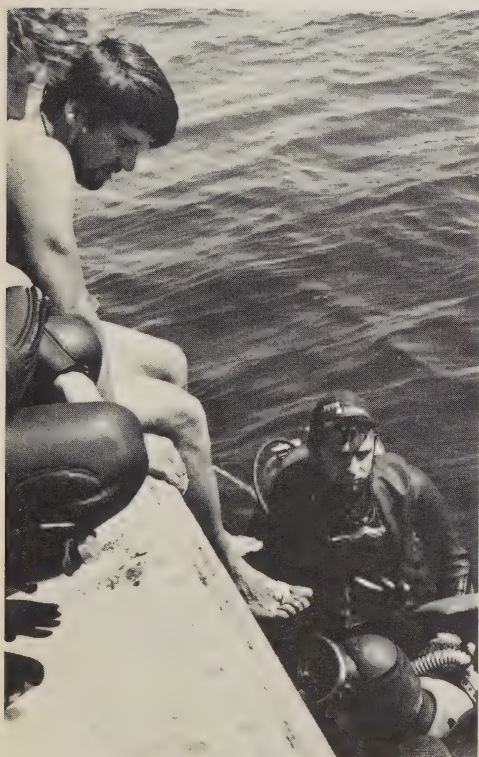
Though the Liberal Opposition had been critical of many of these policies, when they came to power under Wilfrid Laurier in 1896 they continued them with few modifications. The major difference was that under Laurier the policies experienced greater success because prosperous world economic conditions provided investment funds for Canadian development, markets for the country's growing grain and mineral production, and thousands of new immigrants from Great Britain, the United States, and Europe. By the outbreak of World War I Canada was well on its way to fulfilling the destiny which the Fathers of Confederation had predicted.

The Laurier years, for all of their prosperity, witnessed the beginnings of serious cultural, sectional, and class conflicts. Relations between English- and French-speaking Canadians had been worsened by the hanging of Louis Riel, with whom the French Canadian identified. Then came attacks upon the French language and Catholic separate schools in Manitoba and the Northwest in the 1890's. Laurier successfully smoothed over this latter crisis, but cultural relations were also strained by Canadian involvement in the Boer War and the long pre-war debate over the country's place in Imperial affairs. French Canadians, on the whole, were reluctant to be involved in Imperial affairs, while many English Canadians identified Canadian interests with those of the Empire — especially since the Empire provided a protective umbrella against the United States. This development reached its culmination in 1917 when the country, which had entered the war united, was split culturally over the issue of conscription for overseas service.

Sectional discontents were present especially in the Prairie west. This region, almost exclusively agricultural, felt that the national economic policies were designed primarily for the industrial areas of central Canada. The defeat of a proposed reciprocity arrangement with the United States in the election of 1911 left the West in a mood of discontent which manifested itself only after the war in the form of the farmers' Progressive Party. Class tensions were apparent in the growth of labour organization under the leadership of the Trades and Labour Council of Canada. The end of the war also saw labour conflict flare in a general strike in Winnipeg in the spring of 1919.

Canada emerged from the war, in which she had played a substantial part, with a new sense of national pride. That pride was transformed, in the postwar years, into a quest for a status of equality within the new British Commonwealth. Sir Robert Borden, the wartime Prime Minister, set this development in motion and it was continued by the Liberal and Conservative Governments under W. L. M. King and R. B. Bennett. The Statute of Westminster in 1931 provided the legal definition of Canadian autonomy.

Searching for treasure in old and new ways: diving to recover treasures from the frigate *Machault* sunk in Chaleur Bay in the 18th century. On the right, panning for gold in the Yukon.





The Great Depression brought serious dislocation of the Canadian economy, heavy unemployment, and new movements of social protest. In Quebec this discontent expressed itself in a new party called the *Union nationale* while elsewhere in Canada, especially in the West, the Social Credit and Co-Operative Commonwealth Federation parties made a marked impact. The federal government's major problem in these years was its weakened constitutional position, the provinces having been given or having won control over such matters as social welfare and natural resource development. A federal Royal Commission in 1940 recommended that the constitutional arrangements should be revised to give the federal government authority over major economic, social, and tax policies. The recommendations were never implemented but the exigencies of the war once more placed the federal government in a predominant position.

The war and postwar years were a period of great prosperity and economic growth for Canadians. Again Canada played an important part in the war and its unity was only briefly threatened, again over the conscription issue. W. L. M. King's retirement in 1949 and his replacement by Louis St. Laurent marked an easy transition to postwar prosperity. Much of this new growth was financed by American direct investment so that prosperity was bought at the price of increasing American control of the Canadian economy. Since this came at a time when Canada was moving into closer European (NATO) and North American (NORAD) military alliances with the United States, some Canadians began to worry about the country's future. It was this concern, added to a growing dissatisfaction in several of the provinces over Ottawa's centralist policies, that brought the Conservative John Diefenbaker to power in 1957.

The Diefenbaker years were marked by a growing debate over Canada-U.S. relations and, more particularly, the revival of nationalism in Quebec under the guise of "a quiet revolution." This latter event included a whole series of measures meant to modernize Quebec society now transformed by accelerated industrialism. With increasing frequency and intensity many prominent French Canadians expressed dissatisfaction with their status within Confederation and began asking that Quebec be given more autonomy as a province and that French be given greater recognition throughout Canada. In 1963 Lester Pearson's minority Liberal Government established a Royal Commission on Bilingualism and Biculturalism to examine this question. Four years later, after the centennial celebrations, he proposed a series of federal-provincial discussions to examine and reform the constitution in general. This task is being continued under the direction of his successor, Pierre Elliott Trudeau, whose Liberal party was given a majority in the general election of 1968.

Thus, after more than three and a half centuries of existence, Canada, with her 21,000,000 people, has evolved and prospered. Her place as a so-called middle power in the world is well established.



# Government

Canada is a federal state, established in 1867. In that year, the British Parliament, at the request of three separate colonies (Canada, Nova Scotia, and New Brunswick), passed the British North America Act, which "federally united" the three "to form . . . one Dominion under the name of Canada." The Act merely embodied, with one minor modification, the decisions which delegates from the colonies, the "Fathers of Confederation," had themselves arrived at.

The Act divided the Dominion into four provinces. The pre-Confederation "province of Canada" became the provinces of Ontario and Quebec; Nova Scotia and New Brunswick retained their former limits. In 1870, the Parliament of Canada created Manitoba; in 1871, British Columbia entered the Union, and in 1873 Prince Edward Island. In 1905, the Parliament of Canada created Saskatchewan and Alberta, and in 1949 Newfoundland came in.

The B.N.A. Act gave Canada complete internal self-government, and gradually the country acquired full control over its external affairs also. It is now a fully sovereign state, except that a few (but very important) parts of its Constitution can be changed only by Act of the British Parliament. This limitation, however, is purely nominal. The British Parliament invariably passes any amendment requested by the Canadian. The only reason the full power of amendment has not been transferred to Canada is that Canadians have not been able to agree on any amending formula.

The B.N.A. Act gave the Canadian Parliament power to "make laws for the peace, order and good government of Canada in relation to all matters . . . not . . . assigned exclusively to the Legislatures of the provinces." To make assurance doubly sure, the Act added a list of examples of this general power. These included defence; raising money by any kind of taxation; regulation of trade and commerce; navigation and shipping; fisheries; money and banking; bankruptcy and insolvency; interest; patents and copyrights; marriage and divorce; criminal law and criminal procedure; penitentiaries; interprovincial and international steamships, ferries, railways, canals and telegraphs; and any "works" declared by Parliament to be "for the general advantage of Canada." Amendments have added unemployment insurance, and power to amend the Constitution except in regard to the division of powers between Parliament and the provincial Legislatures, the rights guaranteed to the English and French languages, the constitutional rights of certain religious denominations in education, the requirement of an annual session of Parliament, and the maximum duration of Parliament.

The Act of 1867 gave Parliament and the provincial Legislatures concurrent power over agriculture and immigration (with the national law prevailing over the provincial in case of conflict); and amendments provided for concurrent jurisdiction over pensions (but with provincial law prevailing in case of conflict).

Decisions by the Judicial Committee of the British Privy Council (the final court of appeal for Canada until 1949) made the examples of the "peace,



The Houses of Parliament in Ottawa.

order and good government" power almost swallow up the general power of which they were supposed to be examples. The general power came to mean little more than jurisdiction to pass temporary laws to meet wartime emergencies. But judicial decisions also interpreted Parliament's powers to cover interprovincial and international telephones and interprovincial and international highway traffic, and all air navigation and broadcasting.

The B.N.A. Act established a limited official bilingualism. In debates in both Houses of Parliament, members may use either English or French; the records and journals of both Houses must be kept in both languages; Acts of Parliament must be published in both; and either language may be used in any pleading or process in courts set up by Parliament. The same provisions apply to the legislature and courts of Quebec.

In fact, the Government and Parliament of Canada, and the Governments and Legislatures of Quebec, Ontario, New Brunswick, and Newfoundland, have extended bilingualism beyond the constitutional requirements. The whole of the central administration at the national capital, and anywhere where there is a sufficient French-speaking or English-speaking minority, is now being thoroughly bilingualized. The same thing is happening in New Brunswick. Quebec has long been fully bilingual, both officially and in fact.

Except for limited official bilingualism, and certain educational rights for

some religious minorities, the Canadian Constitution provides no specific protection for basic rights like freedom of worship, of the press, and of assembly. Such rights are protected by the ordinary law; but all of them could be curtailed or abolished by Parliament or the provincial Legislatures. Such action would be contrary to the Canadian tradition, however. Indeed, in 1960 the Parliament of Canada adopted a Bill of Rights and the present Government has proposed a constitutional Charter of Human Rights, placing such rights beyond the power of either Parliament or the Legislatures.

Each provincial Legislature has exclusive power over the amendment of the provincial Constitution (except as regards the office of Lieutenant-Governor, the legal head of the provincial executive): natural resources; direct taxation for provincial purposes; prisons; hospitals, asylums and charities; municipal institutions; licences for provincial or municipal revenue; local works and undertakings, incorporation of provincial companies; solemnization of marriage; property and civil rights; the administration of justice (including the establishment of courts, civil and criminal, and civil procedure); matters of a merely local or private nature; and education, subject to certain safeguards for denominational schools in Newfoundland and Protestant or Roman Catholic schools in the other provinces. Judicial decisions have given "property and civil rights" a very wide scope, including most labour legislation and much of social security.

## The Canadian Constitution

The B.N.A. Act and amendments form the basic law of the Canadian Constitution. But they provide only a skeleton framework of government. This is filled out by judicial interpretation, by various Acts of Parliament and the Legislatures, and, most of all, by custom or "convention": the generally accepted understandings about how the legal machinery should be worked. A person taking the B.N.A. Act literally would think Canada was governed by an absolute monarch. In fact, the monarch's powers are exercised, as the Fathers of Confederation put it, "according to the well understood principles of the British Constitution"; that is, according to the usages and understandings which gradually transformed the British monarchy into a parliamentary democracy. These conventions Canada has inherited and adapted to suit her own needs.

## The Government of Canada

**The Executive.** By free and deliberate choice of the Fathers of Confederation, Canada is a constitutional monarchy. The executive government "is vested in the Queen" of Canada (who is also Queen of Britain, Australia, New Zealand, and Ceylon). In strict law, her powers are very great. In fact, they are exercised on the advice of a Cabinet responsible to the House of Commons which is elected by the people.

For most purposes, the Queen is represented by the Governor-General (now always a Canadian), whom she appoints, on the advice of the Canadian





Her Majesty, Queen Elizabeth, with the prize-winning sculptor Egeechiak, during the royal visit to celebrate the Centenary of the Northwest Territories.

Cabinet, for a period of, normally, five to seven years. In very extraordinary circumstances, the Governor-General may act on his own. For instance, if the Prime Minister dies, the Governor must choose a new one from the party with a majority in Parliament, to hold office till that party can choose a new leader. Again, if a Cabinet came out of an election with less than half the seats in Parliament, and asked for an immediate fresh election, the Governor-General would have to refuse, since a newly elected Parliament must at least be allowed to meet and try to transact public business.

Except in such extraordinary circumstances, however, the Queen or the Governor-General must act on the advice of the Cabinet, or, in a few cases, of its head, the Prime Minister. The Prime Minister appoints the members of the Cabinet, decides when Parliament shall meet; normally decides when a new Parliament shall be elected (though there must be an election at least every five years, unless war, invasion, or rebellion makes it impossible). The Cabinet appoints the members of the Senate (the Upper House of Parliament), the judges of the superior, district, and county courts, and the Lieutenant-Governors of the provinces. It can annul any provincial law within one year of its passing. It commands the armed forces, appoints public servants,

pardons criminals, declares war, makes peace, appoints ambassadors, makes and ratifies treaties, and makes regulations within the limits set by Acts of Parliament.

The Cabinet is unknown to the law, the Prime Minister very nearly so. The B.N.A. Act provides only for a "Queen's Privy Council for Canada," appointed by the Governor-General to "aid and advise" him. In fact, this body does nothing. It consists of all Cabinet Ministers, all former Ministers, ex-Speakers of both Houses, the Chief Justice, ex-Chief Justices, and various distinguished citizens appointed as a mark of honour. Its only practical importance is that it provides the legal basis for the Cabinet, which, legally, is simply "the Committee of the Privy Council."

The Cabinet consists of those Privy Councillors whom the Prime Minister invites to its meetings. In practice, this means the heads of all departments, and usually also a few ministers "without portfolio," that is, without departments. In April 1970, the Cabinet had thirty members: the Prime Minister, twenty-four heads of departments, and five ministers without portfolio. Usually, there is one Senator, without portfolio. By custom, all Ministers must have a seat in one House or the other, or get one within a reasonable time.

The Cabinet has no fixed term. It holds office till the Prime Minister dies



The Governor-General and Mrs. Michener bid farewell to H.R.H. Prince Charles as he leaves Manitoba's Centennial celebrations.





Prime Minister Trudeau  
opened the Arctic Winter  
Games in March 1970.

or resigns. Sir Wilfrid Laurier's Cabinet lasted for over fifteen years, Sir John A. Macdonald's second Cabinet for almost thirteen.

If an opposition party wins more than half the seats at a general election, the Cabinet resigns, and the Governor-General calls on the leader of the victorious party to become Prime Minister. The new Prime Minister chooses his Cabinet from his own party: at least one minister from every province (except, usually, Prince Edward Island), and normally eight to ten each from Ontario and Quebec, six to eight from the Western Provinces, at least one English-speaking Protestant from Quebec, at least one French-speaking minister from outside Quebec, and at least one Irish Roman Catholic.

The Cabinet must speak as one on all questions of Government policy. A minister who cannot support that policy must resign. Each minister of a department is answerable to the House of Commons for that department, and the whole Cabinet is answerable to the House for Government policy and administration generally. If the Cabinet is defeated in the House on a motion of want of confidence, it must either resign office — when the Governor-General will call on the Leader of the Opposition to form a new Cabinet — or advise a fresh election — generally the latter nowadays.

Defeat of a major Government bill will ordinarily be considered a vote of want of confidence and lead to the same consequences. But the Cabinet can choose to consider any such defeat not decisive. It is then open to the House to vote straight want of confidence.

Only the Cabinet can introduce bills for the raising or spending of public money. Ordinary members of the House of Commons can move to reduce proposed taxes or expenditures, but not to raise them. The rules of the House allot most of its time to Cabinet business, and nearly all legislation now



comes from the Cabinet. The Cabinet also has the sole power to move closure, cutting off debate; and, if the parties fail to agree, the Cabinet can move to fix a time-table for the various stages of a bill. But the rules are careful also to provide abundant opportunity for the Opposition to question, criticize and attack. Twenty-five days of each parliamentary session are specifically allotted to the Opposition to debate any subject it pleases, and on six of those days it can move want of confidence.

**The Legislature: Parliament.** Parliament consists of the Queen, the Senate and the House of Commons.

The Senate has 102 members, appointed by the Cabinet: 24 from Ontario, 24 from Quebec, 24 from the Maritime Provinces (10 each from Nova Scotia and New Brunswick, 4 from Prince Edward Island), 24 from the Western Provinces (6 each), and 6 from Newfoundland. Senators now retire at age 75.

The B.N.A. Act gives the Senate exactly the same powers as the House of Commons, except that money bills must originate in the Commons. The Senate can reject any bill, but rarely does. It does most of the work on private bills (incorporation of companies, and so on), and subjects general legislation to careful scrutiny in committee. Special Senate committees have also investigated major public problems and produced valuable reports. In March 1970 the Senate had 62 Liberals, 1 Independent Liberal, 26 Progressive Conservatives and 1 Independent, and 12 vacancies.

The House of Commons, to which alone the Cabinet is responsible, has 264 members: 7 from Newfoundland, 11 from Nova Scotia, 10 from New Brunswick, 4 from Prince Edward Island, 74 from Quebec, 88 from Ontario, 13 each from Manitoba and Saskatchewan, 19 from Alberta, 23 from British Columbia, and 1 each from the Yukon and the Northwest Territories. They are elected by single-member constituencies, broadly speaking in proportion to the population of each province; but no province can have fewer members in the Commons than in the Senate. The total number of members is redistributed after each decennial census. Any adult Canadian citizen (with obvious exceptions, such as people in jail) can vote. In March 1970, the Liberals had 153 members, the Progressive Conservatives 72, the New Democratic Party 22, the Social Credit Rally 14, Independents 2, and there was one vacancy.

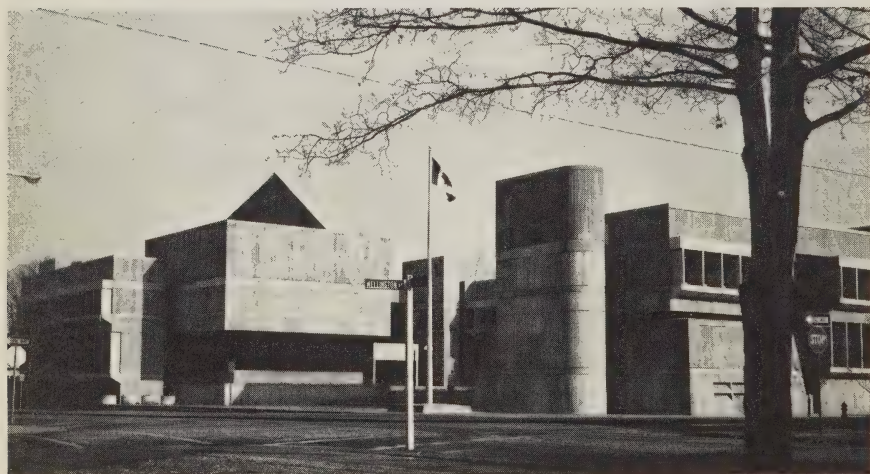
All legislation goes through three "readings." The first is purely formal. On the second, the House gives the bill "preliminary consideration," and, if satisfied, refers it to a committee, where it is dealt with clause by clause. Money bills, and such others as the House thinks fit, are referred to the Committee of the Whole, that is, the whole House, sitting under special rules facilitating detailed discussion. All other bills are sent to one of the 18 "Standing Committees" (12 to 30 members each) which specialize in a certain subject or subjects. The appropriate committee then reports the bill to the House, with or without amendments, and at this stage any member may propose amendments, which are debatable. Then comes third reading. If the bill passes this, it is sent to the Senate, where it goes through much the same procedure.

The Canadian Constitution would be unworkable without political parties. Yet parties are almost totally unknown to Canadian law: a notable example of the conventions of the Constitution. They make possible a stable Government, capable of carrying its policies into effect. They provide continuous organized criticism of that Government. They make possible an orderly transfer of power from one Government to another. They help to educate the electorate on public affairs and to reconcile divergent elements and interests from different parts of the country.

The Liberal party has its roots in the pre-Confederation Reform parties which struggled for the establishment of parliamentary responsible government in the 1840's. The Progressive Conservative party goes back to a coalition of moderate Conservatives and moderate Reformers in the province of Canada in 1854, six years after responsible government had been won. It was broadened into a national party in 1867, when Sir John A. Macdonald, the first national Prime Minister, formed a Cabinet of eight Conservatives and five Liberals or Reformers, whose followers soon became known as "Liberal-Conservatives." The present name was adopted in 1942. The New Democratic party dates from 1961, when the major trade union federation (the Canadian Congress of Labour) and the C.C.F. party joined forces to launch a new party. (The C.C.F. — Co-operative Commonwealth Federation — had been founded in 1932, by a group of farmer and labour parties in the western provinces.) The Social Credit Rally is the former Quebec wing of the Social Credit party, which, outside Quebec, has now virtually disappeared from federal politics.

**The Judiciary.** Most of the courts are provincial, but their judges, from

The county offices in Brantford, Ont.



county courts up, are appointed by the Government of Canada (except for the courts of probate in Nova Scotia and New Brunswick). Parliament has power to establish a general court of appeal, and other courts for the better administration of the laws it passes, and has established the Supreme Court of Canada and other courts. The Supreme Court of Canada and the provincial courts form a single system, dealing with cases arising under both dominion and provincial laws. The Supreme Court of Canada may also give advisory opinions on any law or proposed law, dominion or provincial.

The Supreme Court of Canada is made up of a Chief Justice and eight Puisne Justices, appointed by the Government of Canada. Three of the nine must be Quebec lawyers. Judges of this court and the provincial superior courts can be removed only by Address to the Governor-General from both Houses of Parliament. None has ever been removed.

## Provincial and Territorial Government

In each province, the machinery of government is substantially the same as that of the central government, except that no province has an Upper House.

Most of northern Canada west of Hudson Bay is not part of any province. It is organized in two Territories, the Yukon and the Northwest Territories, which come directly under the Government and Parliament of Canada but enjoy limited self-government.

The Yukon is ruled by a Commissioner, appointed by the Government of Canada, and an elected Council of seven. The Commissioner in Council can pass laws dealing with direct taxation for local purposes, establishment of Territorial offices, sale of liquor, preservation of game, municipal institutions,

The Legislative buildings in Winnipeg, Man.







The ombudsmen of Alberta, Quebec, Manitoba, and New Brunswick have been appointed to deal with grievances of a non-political or non-judicial nature in their respective provinces.

licences, incorporation of local companies, solemnization of marriage, property and civil rights, and matters of a local and private nature.

The Northwest Territories are ruled by a Commissioner, appointed by the Government of Canada, and a council of nine, of whom five are appointed by the central Government and four elected. The Commissioner in Council has substantially the same powers as in the Yukon.

## **Municipal Government**

Municipal government, being a matter of provincial jurisdiction, varies considerably. All municipalities (cities, towns, villages, and rural municipalities) are governed by an elected Council. In Ontario and Quebec, there are also counties, which, for certain purposes, group smaller municipal units, and both these provinces have begun to set up regional municipalities for metropolitan areas.

In general, the municipalities are responsible for police and fire protection; local jails, roads, and hospitals; water supply and sanitation; and schools (often administered by distinct boards elected for the purpose). They get their revenue mainly from taxes on real estate, permits, and licences, and grants from the provinces. The total number of municipalities is now about 4,500.

EUGENE FORSEY

# External Relations

## The Department of External Affairs

Established in 1909 and headed by a minister styled Secretary of State for External Affairs, the Department of External Affairs has three main purposes: 1) to provide information and advice to the Government on issues of foreign policy; 2) to foster understanding of Canada and its people by other governments and nations; and 3) to provide services to Canadian travellers and foreign citizens abroad.

In December, 1969, Canada had diplomatic, consular and/or trade representation in 117 countries. (The asterisk denotes non-resident representation and the country shown in brackets is that in which the accredited Canadian representative resides.)

*Afghanistan (Pakistan)	Ghana	Nigeria
*Algeria (Switzerland)	Greece	Norway
Argentina	Guatemala	Pakistan
Australia	*Guinea (Senegal)	*Panama (Costa Rica)
Austria	Guyana	*Paraguay (Argentina)
*Barbados	Haiti	Peru
(Trinidad and Tobago)	*Honduras (Costa Rica)	Philippines
Belgium	Hong Kong	Poland
*Bolivia (Peru)	*Hungary (Czechoslovakia)	Portugal
*Botswana (South Africa)	*Iceland (Norway)	*Romania (Yugoslavia)
Brazil	India	*Rwanda (Democratic
Britain	Indonesia	Republic of the Congo)
*Bulgaria (Yugoslavia)	Iran	
*Burma (Malaysia)	*Iraq (Iran)	*San Marino (Italy)
*Burundi (Democratic	Ireland	Senegal
Republic of the Congo)	Israel	*Sierre Leone (Nigeria)
Cameroun	Italy	Singapore
*Central African Republic	Ivory Coast	*Somali Republic (Ethiopia)
(Cameroun)	Jamaica	South Africa
Ceylon	Japan	Spain
*Chad (Cameroun)	*Jordan (Lebanon)	*Sudan (United Arab
Chile	Kenya	Republic)
Colombia	*Korea (Japan)	*Swaziland (South Africa)
*Congo, Republic of	*Kuwait (Iran)	Sweden
(Democratic Republic	Lebanon	Switzerland
of the Congo)	*Lesotho (South Africa)	*Syrian Arab Republic
Congo, Democratic	*Libya (Tunisia)	(Lebanon)
Republic of	*Luxembourg (Belgium)	
Costa Rica	*Malagasy Republic	Tanzania
Cuba	(Ethiopia)	Thailand
Cyprus	Malaysia	*Togo (Ghana)
Czechoslovakia	*Mali (Senegal)	Trinidad and Tobago
*Dahomey (Nigeria)	*Malta (Italy)	Tunisia
Denmark	*Mauritania (Senegal)	Turkey
*Dominican Republic	*Mauritius (Tanzania)	
(Venezuela)	Mexico	*Uganda (Kenya)
*Ecuador (Colombia)	*Monaco (France)	Union of Soviet
*El Salvador (Costa Rica)	*Morocco (Spain)	Socialist Republics
Ethiopia	*Nepal (India)	United Arab Republic
Finland	Netherlands	United States of America
France	New Zealand	*Upper Volta (Ghana)
*Gabon (Cameroun)	*Nicaragua (Costa Rica)	*Uruguay (Argentina)
*Gambia (Senegal)	*Niger (Nigeria)	Venezuela
Germany		Yugoslavia
		*Zambia (Tanzania)

Canada is also represented on International Commissions for Supervision and Control in Indo-China. It has Permanent Missions to the United Nations in New York and Geneva; the European Economic Community, the European Atomic Energy Community and the European Coal and Steel Community in Brussels; the Organization for Economic Co-operation and Development, and the United Nations Educational, Scientific and Cultural Organization in Paris; the International Atomic Energy Agency and the United Nations Industrial Development Organization in Vienna; the North Atlantic Council in Brussels; and the Conference of the Committee on Disarmament in Geneva.

**Canada and the United Nations.** Firm support for the United Nations is an essential element of Canadian foreign policy. Over the years, Canada has on several occasions contributed to the United Nations' efforts to keep the peace, and at present members of its armed forces are serving with UN missions in various parts of the world. Canada has consistently advocated the strengthening of the peace-keeping capacity of the United Nations through advance planning at United Nations headquarters, and the adoption of stand-by arrangements by member states.

Canada also participates directly in the work of the United Nations through its membership in various United Nations bodies, including all of the thirteen Specialized Agencies and the International Atomic Energy Agency (IAEA). The International Civil Aviation Organization (ICAO) with headquarters in Montreal is the only specialized agency of the United Nations whose headquarters are located in Canada.

Canada has served three two-year terms as a member of the UN Security Council, in 1947-48, 1958-59 and 1967-68; in addition, in 1952 the Hon. Lester B. Pearson (then Secretary of State for External Affairs) was elected to the presidency of the seventh General Assembly.

**Canada and the United States.** Relations between Canada and the United States are vital and in many ways constitute a unique experiment in international living. Geography has made neighbours of these two countries. They are each other's largest trading partners and American capital has played an important role in Canada's economic development and prosperity. The two countries participate jointly in the defence of the North American continent through NORAD and other arrangements. Their institutions and practices, although different, reflect a common devotion to the ideals of freedom and liberty. A most important factor in reinforcing their mutual friendship is the intermingling of Canadians and Americans, both as private citizens and as representatives of organizations, which is facilitated by the relatively free flow of people across the border. The presence of common boundary waters, for example the Great Lakes, dictates joint action on problems such as pollution, and this has been undertaken by the International Joint Commission which reports to the Secretary of State for External Affairs of Canada and the Secretary of State of the United States. The Ministerial Committee on Trade and Economic Affairs regularly brings together members of the Cabinets of both countries for discussions on the



widest range of problems. In addition, there are a multitude of committees and agencies which deal with particular specialized subjects.

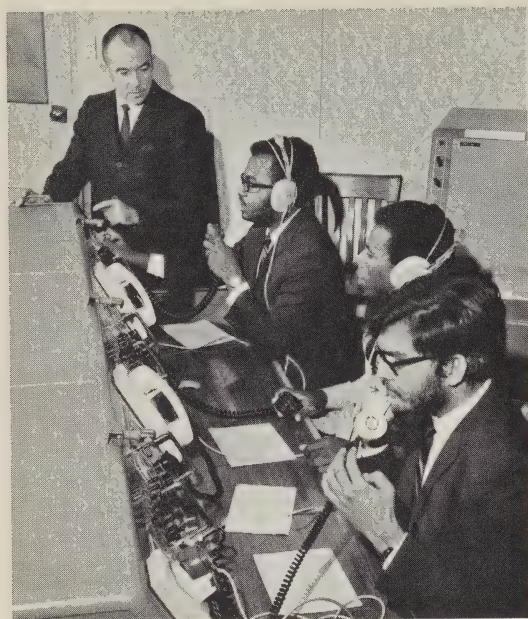
While the Canadian and American approaches to issues of foreign policy may differ on occasion, both countries are conscious of the importance of mutual understanding, and both seek to achieve it at all times.

**Canada and the Commonwealth.** Canada has long been an active member of the Commonwealth. This unique association of twenty-nine independent states—Britain, Canada, Australia, New Zealand, India, Pakistan, Ghana, Ceylon, Malaysia, Nigeria, Cyprus, Sierra Leone, Tanzania, Jamaica, Trinidad and Tobago, Uganda, Kenya, Malawi, Malta, Zambia, The Gambia, Singapore, Guyana, Botswana, Lesotho, Barbados, Mauritius, Swaziland, and an independent state with associate member status, Nauru—continues to seek new areas of co-operation in order to develop its potential as a multiracial force in the world.

In 1964, the Commonwealth Prime Ministers' meeting recognized the need for a central secretariat that would serve as a focus for consultations and co-ordinate Commonwealth-wide co-operation programs. Accordingly, the

Canadian funds have helped to finance the Idikki Dam, Kerala State, India.





A Canadian expert instructs students from Timehri International Airport, Guyana, in air traffic control at Ottawa.

Commonwealth Secretariat was established in 1965, and since then its Secretary-General has been Arnold Smith, a Canadian. Among its activities, the Secretariat publishes a continuing series of background papers dealing with topical international questions; services Commonwealth consultative meetings ranging from Prime Ministers' meetings to meetings of experts on a variety of technical subjects; co-ordinates technical assistance activities and collates and disseminates up-to-date information on the quality and quantity of economic assistance required and available within the Commonwealth.

Canada has supported the extension and development of the Commonwealth through action by the Secretariat and through bilateral contacts with other members. Canada values greatly its relationship with this group of nations which, despite their diversity, share important values and traditions. In general, Commonwealth ties are characterized by a spirit of co-operation fostered by consultation and exchange of views and by a desire on the part of the older to assist the newer members to establish themselves in the international community and to progress satisfactorily in political, economic, and social development.

Canadian external aid for developing countries continues to be directed in large part to Commonwealth countries through the Colombo Plan, the Special Commonwealth African Assistance Plan (SCAAP), and the Canadian Programme for Commonwealth Caribbean Assistance. Canada's total contribution under the Colombo Plan since its inception exceeds \$1,214,824,000.

From 1960 to the end of March 1969, Canada, through SCAAP, contributed a total of \$85,450,000 to Commonwealth countries in Africa. Between 1958 and the end of March 1970, approximately \$105,490,000 were made available by Canada to Caribbean countries. Canada is also an active participant in the Commonwealth Scholarship and Fellowship Plan, having contributed \$1,300,000 in 1968-69 and received 204 students for study at Canadian universities during the same period.

**Canada and Europe.** While Canadian interest in most areas of the globe is increasing, Canada's relations with Europe remain of special importance. They are deeply rooted in Canada's origins, springing from the common cultural heritage which is shared with Britain and France and also reflecting the ties with other European countries from which Canada's population is derived. These relations contribute to the richness of Canada's national life and to the diversity of its links with the outside world. They have been strengthened by Canada's substantial participation, on European soil, in two World Wars and by Canada's continuing stake in European security in the interests of international peace.

Canada maintains close and extensive bilateral relations with Britain and France in particular, as well as with most other West European countries, and it has resident diplomatic missions in almost all of them. Britain and, to a lesser extent, several Western European countries have been among Canada's major partners in external trade and have been its chief source of immigrants. As a result of its growing prosperity, dynamism, and unity, Western Europe will undoubtedly assume increasing importance in Canada's external relations.

In recent years, Canada's relations with the communist countries of Eastern Europe have developed considerably. The large-scale Canadian wheat sales there after 1963 were followed by the growth of exchanges in many fields during periods of general relaxation of international tensions in Europe. Canada has resident diplomatic missions in Moscow, Prague, Warsaw, and Belgrade and has established diplomatic relations with Hungary, Romania, and Bulgaria through non-resident ambassadors. Canada regards the development of mutually advantageous relations and exchanges with these countries as an important contribution toward better East-West understanding and the ultimate goal of a European settlement.

**Canada and the Middle East.** Since the Second World War the Middle East has been a focus of tension and conflict. During this period Canada has participated in the United Nations' efforts to bring about calm and stability in the area. It has also contributed substantially to measures to alleviate want among the victims of recurring hostilities.

Canada provided observers to the United Nations Truce Supervision Organization (UNTSO) and was closely associated with the formation of the United Nations Emergency Force (UNEF). Canadian troops served with UNEF in Gaza and Sinai from its inception until its withdrawal in May 1967. Canadian officers continue to serve with UNTSO, which is supervising the Arab/Israeli cease-fire.



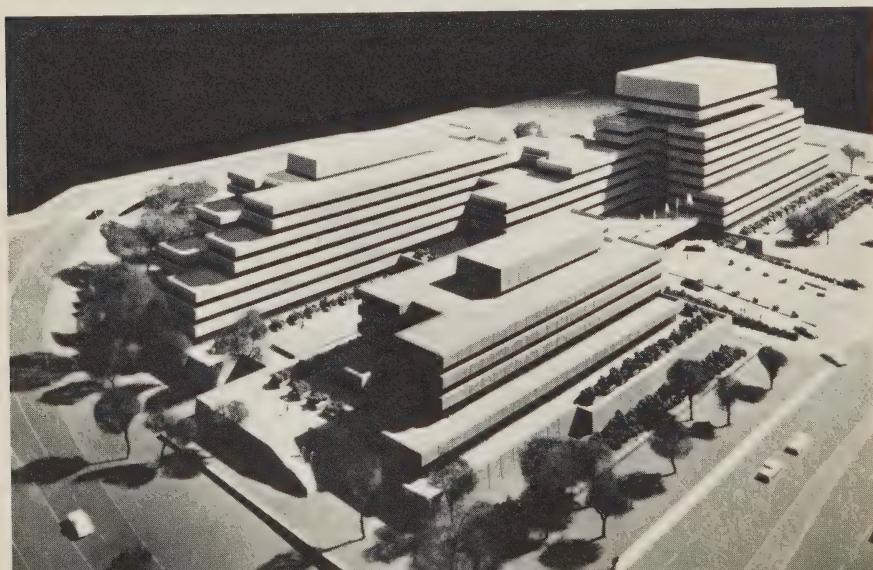
Canada has been a leading contributor to the United Nations Relief and Works Agency for Palestine refugees (UNRWA) since its establishment, and its support has taken the form of cash, food aid, and other supplies aimed at relieving human suffering in the Middle East. In emergency situations it has also provided various forms of assistance through the International Red Cross.

The visit of the Secretary of State to the Middle East emphasizes the importance attached by the Canadian Government to developments in that area, and its concern about human suffering and the threat to world peace arising from the Arab-Israeli conflict. In visiting Iran, Israel, and the United Arab Republic in 1969, Mr. Sharp had an opportunity both to exchange views and to consolidate the amicable bilateral relations Canada enjoys with the governments concerned.

**Canada and Africa.** The accession to independence of the majority of former colonial territories in Africa during the 1960's has been paralleled by the rapid development of Canadian relations with that continent. The strengthening of these relations was actively pursued during 1969. This has involved recognition of the increasing role of African states in international affairs, their development problems, and the importance of the political issues facing the African continent.

Direct relations with African countries were first established with former British colonies as they became independent within the Commonwealth. This was soon followed by the consolidation of links with francophone Africa in recognition of the Government's desire to reflect in its foreign policy the dual heritage of Canada. Canada now entertains diplomatic relations

Construction is under way of the new headquarters for the Department on Sussex Drive, Ottawa, overlooking the Rideau River.



with almost all the independent African states and has established resident missions in 11 countries of the continent. Visits to Canada by two African Heads of State, Presidents Julius Nyerere of the United Republic of Tanzania and Hamani Diori of Niger, figured prominently during the year in the development of Canadian links with African countries. In addition, an important program of economic assistance to Africa has been elaborated, which exceeded \$44 million in 1969, and included a wide variety of projects in a great many countries.

**Canada and the French-speaking Community (La Francophonie).** The Canadian Government is promoting the establishment of increasingly closer links with the countries with which it shares a common heritage of French language and culture. Several ties have already been established with most of the 30 French-speaking countries in the world: these include diplomatic missions, cultural agreements, visits by parliamentarians, exchanges of university and government officials, art and other exhibitions, and major cultural and economic co-operation programs.

Testifying to the existence of a world-wide community of French-speaking countries is the Agency for Cultural and Technical Co-operation between Entirely or Partially French-speaking Countries. Canada has been an active participant in the establishment of this agency, which was officially launched in the spring of 1969. Recent years have also seen the appearance of numerous international, private, and semi-governmental associations whose common denominator is the French language and culture; among the most important are the International Association of French-speaking Parliamentarians, the Association of Entirely or Partially French-speaking Universities, the Institute of French-speaking Jurists, and the French-speaking Radio Community.

It is the intention and fixed policy of the Canadian Government to participate actively in all efforts aimed at establishing an effective system of co-operation between French-speaking countries. By doing so, Canada is highlighting its bicultural nature, encouraging the development of French culture within its own borders, and helping to spread among other nations its version of that culture. In the past few years, interest in French-speaking countries has been high on the list of the priorities in Canada's diplomatic activities, and the vigorous policy adopted by the Government in this area testifies to the importance it attaches to French culture as a fundamental element of Canadian life.

**Canada and Latin America.** Canada has formal diplomatic relations with all the Republics of Latin America and now has 11 resident diplomatic missions in the region. Its political, cultural, and commercial relations with these countries have increased appreciably during the past few years. In addition, Canada belongs to five Inter-American organizations (the Pan-American Institute of Geography and History, the Inter-American Statistical Institute, the Inter-American Radio Office, the Inter-American Centre of Tax Administrators, and the Centre for Latin American Monetary Studies), and regularly attends their meetings.

Canada has also been developing closer economic ties with Latin America.

Since 1961, it has been a member of the United Nations Economic Commission for Latin America and has sent observer groups to the annual ministerial meetings of the Inter-American Economic and Social Council of the O.A.S. Trade Missions of Canadian businessmen and government officials to Latin American countries have been promoted. Of particular importance, the Canadian Government has directly facilitated Canadian exports to Latin America through the long-term credits that it has provided for the export of capital goods under the Export Credits Insurance Act and the new Export Development Act. These credits now total some \$275 million. In December 1964, the Canadian Government signed an agreement with the Inter-American Development Bank under which Canada agreed to make available \$10 million to finance development projects in Latin America. Similar amounts were made available in each of the succeeding five years. Through the Canadian International Development Agency, the Government is currently studying the possibility of introducing a program of direct bilateral technical assistance to the Latin American countries, and has already instituted a program whereby grants are made available to voluntary organizations working in Latin America, such as the Canadian University Services Overseas, the Canadian Executive Services Overseas, and missionary groups.

Official Canadian observers attend meetings of other Inter-American Organizations of which Canada is not a member, including the Pan-American Health Organization and the Inter-American Indian Institute. Canadian observers were present at the Special Conference of O.A.S. Foreign Ministers in Buenos Aires, February 1967, at which extensive amendments to the O.A.S. charter were approved.

Of perhaps greatest importance for future strengthening of Canadian ties with Latin America was the decision in 1968 to conduct a thorough review of Canadian policy toward this region. The new foreign policy guidelines for Latin America were laid down during the course of 1970, upon completion of the review.

**Canada and the Far East.** As a nation bordering on the Pacific, Canada has for many years had numerous links, both official and private, with the countries of the Far East. There are resident diplomatic missions in Japan (also accredited to the Republic of Korea), Indonesia, Thailand, Singapore and Malaysia (also accredited to Burma), and there is a Consulate General in the Philippines. There is an important Trade Commissioner's Office in Hong Kong and immigration officers are stationed there and elsewhere in the Far East.

Canada is a founding member of the Colombo Plan under which development aid in the form of loans, grants, and technical assistance is extended to a number of Far Eastern countries and it participates in the work of the UN Economic Commission for Asia and the Far East (ECAFE), including the Mekong Committee. Canada has also been a member of the Asian Development Bank since its establishment and is currently represented on the bank's board of directors in Manila.





The Canadian pavilion at Expo 70 in Japan won first prize for beauty of design.

In addition to its diplomatic, commercial, and aid relations with Far Eastern countries, Canada has participated in peacekeeping in the Indo-China area since 1954 through its membership on the International Commissions for Supervision and Control in Vietnam, Laos, and (until the Commission adjourned on December 31, 1969) in Cambodia.

**Arms Control and Disarmament.** Canada has been a strong and consistent supporter of international negotiations toward arms control and disarmament. Speaking in the House of Commons on October 24, 1969, the Prime Minister said: "No single international activity rates higher priority in the opinion of this Government than the pursuit of effective arms control and arms limitation agreements." As a member of the Conference of the Committee



Canadian armed forces Caribou aircraft land with supplies to aid victims of the earthquake in Peru. More than 70 tons of supplies and 600 passengers have been flown to stricken villages in the Andes.

on Disarmament, Canada seeks to encourage and participate in the negotiation of international agreements to control the nuclear arms race, and to reduce and eventually to eliminate nuclear weapons. The Non-Proliferation Treaty is the most notable recent agreement of this type. The ultimate objective of disarmament negotiations remains, of course, the achievement of general and complete disarmament under effective international control.

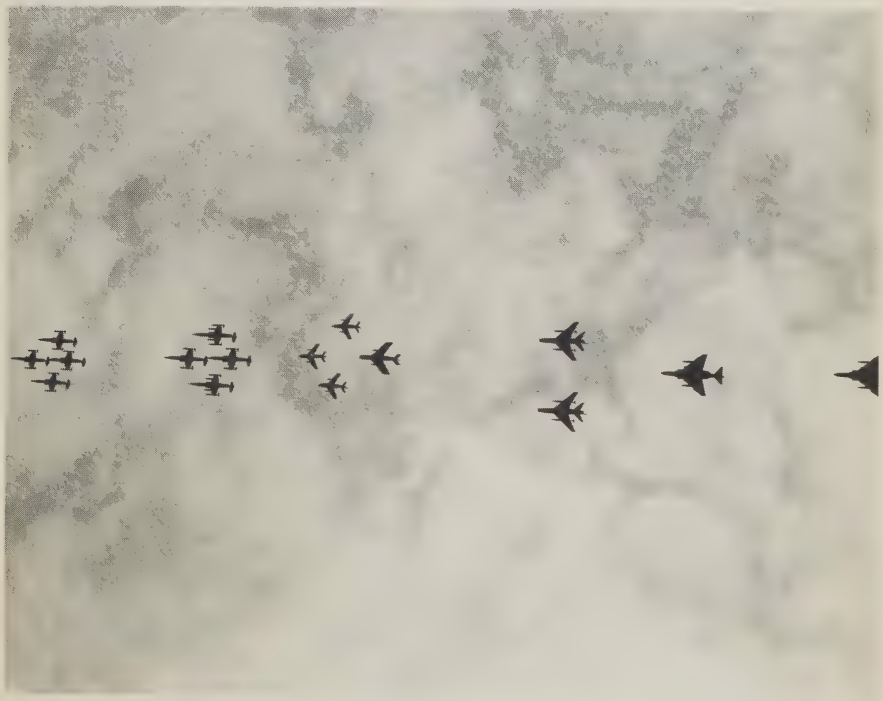
**Foreign Policy and Defence.** In consonance with basic foreign policy objectives, Canada's defence policy is designed to assure the protection of Canadian sovereignty and contribute to the maintenance of world peace. Canada rejects a non-aligned or neutral role in world affairs, and participates in collective security arrangements with other states in the interests of Canadian national security and in defence of values shared with Canada's friends. In addition to conducting surveillance of its own territory and coastlines, Canada co-operates with the United States in the defence of North America through the North American Air Defence Command (NORAD), and in other ways. To the extent feasible, activities in Canada essential to continental defence are carried out by Canadian forces.

Canada continues to be a member of the North Atlantic Treaty Organization (NATO), along with the United States and most of the countries of Western Europe. The stabilizing influence of NATO reduces the likelihood of a world

nuclear conflict originating in Europe, where the vital interests of the two major powers are involved. Canada also attaches importance to NATO's role in fostering measures of political accommodation and arms control between East and West. Besides participating actively in NATO's political activities, Canada contributes militarily to the Alliance, although as a result of the increased ability of Western European countries to provide for their own defence, the size of Canadian forces in Europe was reduced during 1970 from about 10,000 men to 5,000 men. Canadian activities in continental defence also constitute a contribution to NATO, as North America is part of the North Atlantic Treaty area.

As a responsible member of the international community, Canada also considers it desirable to have forces available for UN or other international peace-keeping roles. At the present time there are more than 1,000 Canadian officers and men serving the United Nations and the International Control Commission in countries around the world.

Aircraft of NATO's Tiger Squadrons, led by four Canadian CF-104's, fly by during an air show at Lahr, Germany.





## National Defence

The control and management of all matters relating to National Defence, the Canadian Armed Forces, the Defence Research Board, Defence Construction (1951) Limited and Canada Emergency Measures Organization are the responsibility of the Minister of National Defence.

The present organization of the Canadian Forces evolved initially from the integration and subsequently the unification of the three armed services. Before 1964, the Canadian defence forces conformed to the traditional pattern of three separate services reflecting the distinction between sea, land, and air forces. In 1965-66 an integrated command structure for the field forces was established whereby the four Army regional commands, the two Navy regional commands, and the five Air Force functional commands were replaced by five major functional commands: Mobile Command, consisting of land and tactical air forces; Maritime Command; Air Defence Command; Training Command; and Air Transport Command. In addition on April 1, 1970, Maritime Command, Mobile Command, Air Transport Command, and Training Command were assigned responsibility for regional support services and co-ordination with local government authorities in aid of the civil power.

Recent changes in defence policy, together with a decision to maintain a defence budget for the next three years at the current level of \$1,815 million a year, have resulted in revised objectives for the restructuring of the Armed Forces. Current force structure decisions have affected or will affect all commands to some extent. However, the major decision is a planned reduction in manpower. The manning level of the forces has been reduced progressively over the past five and a half years. In 1964 the total strength was approximately 120,000; in 1965 it was 112,000; in 1966, 106,000; in 1968, 100,000; and in 1969, 97,000. By 1973 it is planned to have a total strength of approximately 82,000.

Mobile Command, as the primary user of manpower, will be affected the most. This Command is being restructured from five combat groups (averaging 4,000 men each) to three somewhat larger combat groups plus a small training group in Canada. Tactical air support of Mobile Command will be provided by CF-5 aircraft, which are currently entering service, but the final configuration of the CF-5 force is still under consideration.

In Europe, the previous Mechanized Brigade Group and the Air Division were brought under the command and control of a single commander of the Canadian Forces (Europe) on July 1, 1970.

The role of land forces will change: from mechanized, they will become air mobile, and they will be tasked by the Central rather than the Northern Army Group. This will make them compatible with the remainder of the combat group in Canada, from the point of view of organization, equipment and training.

The Air Division is being reduced from six squadrons to one reconnaissance and two strike squadrons. After 1972, the squadrons will be employed in either the reconnaissance or conventionally armed attack roles.

Since 1964 the Canadian Forces have been carrying out a destroyer modernization program and have provided some destroyers with a helicopter capability. A new class of submarines has come into service and new support ships have been supplied. In 1971-72 the gas turbine equipped helicopter destroyer program will be completed and the third operational support ship should join the fleet in 1970.

The major change in the sea forces was the retirement and disposal of the aircraft carrier HMCS *Bonaventure* in 1970. In addition, a number of older ships will be disposed of and two repair ships paid off and used as fixed accommodation.

The shift of land forces towards air mobility signifies the progressive phasing out of heavier artillery and armoured equipment and its replacement by lighter equipment. This has led to the procurement of a family of light-weight tracked vehicles and a family of observation reconnaissance transport and operational helicopters and light over-snow vehicles. Finally, the air forces have been provided with tactical transport aircraft and more recently four Boeing 707 jet transport aircraft. In addition, there are an interceptor jet modernization program and plans for the future acquisition of a small number of utility transport helicopters.

Canadian military assistance to other nations is embodied in two programs; Military Assistance and Mutual Aid. Military Assistance provides aid to developing Commonwealth nations, and includes the possibility of aid for some francophone countries. Assistance programs provide no material, but concentrate on staff training. Currently 11 nations are benefiting from Canadian military assistance: 18 Canadians are serving on training teams in 3 foreign countries and 26 officers and men of other nations are receiving training in Canada. Mutual Aid provides training, mostly of pilot aircrew, to Canada's NATO partners.

Airborne troops boarding a *Voyageur* helicopter with winter equipment and sleds for an exercise in the North.



## Canadian International Development Agency

Although it had provided some assistance to Europe and the Middle East just after the Second World War, Canada first became involved in international development, as it is now understood, in 1950. Canada's first external aid allocation of \$400,000 to help launch the Colombo Plan was approved by Parliament in 1951.

During the past 20 years Canada's effort has changed greatly, increasing in size and complexity. Allocations for 1969-70 exceeded \$338 million. Canadian aid is now directed through a variety of bilateral and multilateral channels, and includes food aid, help for victims of natural disasters, health services, technical and educational assistance, development loans, and assistance for capital projects.

Its purpose is not only to meet emergencies as they occur around the world, but more important, to help prevent them by co-operating with the developing countries in their efforts to hasten economic growth. To reflect this change in emphasis, the External Aid Office became the Canadian International Development Agency (CIDA) in 1968.

More than 70 countries or territories have been assisted by Canada, but most bilateral aid is concentrated in eleven countries or areas: India, Pakistan, Ceylon, and Malaysia in the Colombo Plan region of Asia; Nigeria and Ghana in Commonwealth Africa; Tunisia, Cameroun, and Senegal in francophone Africa; the Commonwealth Caribbean area; and Latin America as a whole. In several other countries smaller but significant programs are in progress.

Since different countries and regions naturally have different needs, Canada provides various kinds of assistance. In Asia, dams and power systems have been built, and food, fertilizers, equipment, and raw materials have been supplied to help agriculture and industry grow to meet the needs of large populations. In Africa, the stress has been on technical and educational assistance to create a pool of skilled manpower. Water supply, agriculture, and transportation have been improved on the Caribbean islands, where Canada has also built more than 100 schools and, through a special program, is helping the University of the West Indies grow to serve the region.

About 20 per cent of Canadian aid is multilateral. Funds are given or loaned to support the development projects of international agencies such as the United Nations, the International Bank for Reconstruction and Development (the World Bank), the International Development Association, and the recently-established regional development banks. Canada has been an active member of these multilateral institutions, and in 1969 made the second largest contribution to the World Food Program and the fourth largest to the United Nations Development Program.

Today, the developing countries face massive problems and, if international development is to succeed, many changes will be required. Much was accomplished during the first UN Development Decade—notably, the "Green Revolution" by which new high-yielding strains of wheat and rice dramatically improved harvests in Asia. But new ways must be found to perfect development assistance and to hasten the pace of progress if life is to





A Canadian science teacher conducts a laboratory experiment with secondary students in Malawi.

improve for most of the world's people.

One new Canadian initiative is the International Development Research Centre, first proposed by the Rt. Hon. Lester B. Pearson in 1967. An important reason for the growing gap between the rich and the poor in the world is that 98 per cent of research and development work is conducted in, for, and by the more developed countries. Canadian-financed but independent and international in character, the Centre will bring together experts on the developing countries to initiate and sponsor research in the application of technical and scientific knowledge to the problems of economically underdeveloped regions.

CIDA has been reorganized for better service, and has added a public health adviser to its staff. A new Business and Industry Division encourages the transfer of know-how and investment by helping Canadian firms set up enterprises in developing countries, and CIDA's Special Programs Division has given increasing support to the projects of Canadian voluntary agencies—such as the Canadian University Service Overseas (CUSO).

In recent years several hundred Canadian advisers and about a thousand Canadian teachers have gone abroad annually under technical assistance programs, while about three thousand students from developing countries were receiving training in Canada each year.

## Canadian Executive Services Overseas

CESO is a non-profit organization established by federal charter on December 2, 1967, and operated by a group of Canadian business leaders with the support of the Canadian International Development Agency.

Its purpose is to recruit senior and usually retired executives, middle management, technical, and professional men, to work for a maximum of six months as volunteers with existing management in developing countries, in response to specific requests received from governments or private agencies.

Thus CESO, in limiting its operations to relatively short-term projects, fills a need that lies between the large-scale programs administered by CIDA and the two-year assignments carried out by CUSO's personnel. CESO volunteers are particularly useful in these areas: tuning-up an established operation; making a feasibility study; reporting on a situation; and acting as training consultants. Requests for assistance vary from country to country and present a wide range of managerial and technical projects.

Another important aspect of CESO's activities is a co-operative plan with the Canadian Medical Association under which many Canadian doctors have served in the Caribbean area, assisting local health authorities and relieving overworked medical personnel.

In all these CESO assignments volunteers serve without salary from either Canada or the applying organization. CESO pays the travel costs and the host organization is responsible for appropriate living expenses throughout the assignment. Wives usually accompany their husbands under this arrangement, provided the assignment lasts longer than two months.

From the outset, CESO has stressed that it does not expect to assist well organized companies controlled from outside a country. Its clearly defined role is to work with local industry or government organizations in improving technical operations or management.

More than one hundred Canadian companies, financial and educational institutions are represented on CESO's Board of Directors. Their support is of great assistance in the recruiting program of CESO.

At the end of December 1969, CESO had a roster of over 800 volunteers. Its activities extended to Africa, Asia, the Caribbean, South America, the Near East, and the Far East, with 15 overseas representatives in key centres around the world, whose function is to establish contacts and maintain liaison with local industries and projects. By the end of December 1969, CESO volunteers had carried out 92 projects in 25 countries. Twenty-three volunteers were in the field, 22 more were preparing to go overseas, 13 candidates had been proposed to various countries for approval, and CESO recruiters were endeavouring to fill requests for 60 more.

Considerable acceleration in CESO's activity took place during 1969 and there is every indication that this will continue throughout 1970. The rapid expansion of CESO's program in the period under review has opened up many opportunities for future development.

A Canadian volunteer X-ray technician serves under a medical plan initiated in British Columbia that is now carried on in conjunction with the Canadian Medical Association and CESO.



## Canadian University Service Overseas

CUSO began in 1961 and that year it sent 17 Canadians to work in four countries. Since then more than 2,500 Canadians have used the organization as a practical means of contributing to international development. Today, CUSO has some 1,200 people working in more than 40 developing countries in Africa, Asia, the Caribbean, and Latin America.

An independent, non-profit organization, CUSO is engaged in the placement of persons with specialized knowledge and technical skills in response to requests from overseas governments and agencies. It is viewed by them as a source of manpower for their continuing development programs. CUSO personnel range in age from 18 to 80, and in occupation from town planners to motor mechanics. Currently in greatest demand are teachers — especially in mathematics and science — nurses, doctors, medical technicians, engineers, and agriculturalists. All assignments are for two years.

CUSO personnel are usually paid at approximately counterpart, not Canadian, salaries. This policy, which enables overseas governments to devote their all-too-scarce capital to other development tasks, is one of the features that distinguishes CUSO from the majority of other manpower resource agencies.



A major objective in the past two years has been decentralization, in recognition of the fact that both initial planning and actual administration are most effectively conducted in the field. CUSO now has 25 full-time and 8 part-time field staff officers.

CUSO draws on four major sources for direct and indirect financial support: the Canadian International Development Agency (CIDA), overseas governments and agencies, Canadian educational institutions, and the private sector. In 1968-69 the CIDA grant totalled over \$2,250,000, while the overseas governments contributed over \$2,500,000 in salaries and housing supplements. Indirect support, estimated at \$500,000, comes from such sources as universities and colleges providing office space, equipment, and staff for local recruitment and selection committees; the advertising industry; the mass media, which carry recruitment advertising free of charge; and pharmaceutical and other companies donating medical kits packaged by the Department of National Health and Welfare. Finally, an estimated \$400,000 comes from the private sector: it includes donations from individuals, corporations, foundations, community and service groups, and the thousands of Canadians who participate through the "Miles for Millions" marches.

A CUSO nurse discusses baby care with a group of mothers in Kenya.



## Population

The estimate of the 1968 mid-year population of the world was 3,483 millions; of this the North American continent claimed about 309 millions or 8.9 per cent. The United States registered a population of 201 millions or 5.8 per cent of the world's population while Canada accounted for only 20.7 million or 0.6 per cent. Though in relation to that of the world the population of Canada may be considered a drop in the ocean, in terms of resources the country enjoys a unique and enviable position. The population profile within the country is quite interesting: the provincial and rural-urban distribution of population, age and sex patterns, components of growth, the types of families, and the dynamics of change associated with these make a fascinating study. The following paragraphs attempt to portray, very briefly, the demographic picture of Canada as reflected in the latest available census statistics.

The estimated population of Canada on June 1, 1969, was 21,061,000. This constituted an increase of 2.82 millions over the population of the 1961 census and 1.05 millions over that of 1966. The distribution of this total population by province indicates a wide variation among the provinces. One finds that three out of every five Canadians live in the two large provinces, Ontario and Quebec. The provinces with the least population (excluding Yukon and the Northwest Territories) are Prince Edward Island and Newfoundland; the former accounts for only one half of 1 per cent of the total Canadian population and the latter for about 2.5 per cent.

### Numerical and Percentage Distribution of Population by Province

Province or Territory	Population in thousands			Percentage distribution		
	1961 Census	1966 Census	1969 (Estimates)	1961	1966	1969
<b>Canada</b> .....	<b>18,238</b>	<b>20,015</b>	<b>21,061</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Newfoundland .....	458	493	514	2.5	2.5	2.4
Prince Edward Island .....	105	109	110	0.6	0.5	0.5
Nova Scotia .....	737	756	763	4.0	3.8	3.6
New Brunswick .....	598	617	625	3.3	3.1	3.0
Quebec .....	5,259	5,781	5,984	28.8	28.9	28.4
Ontario .....	6,236	6,961	7,452	34.2	34.8	35.4
Manitoba .....	922	963	979	5.1	4.8	4.6
Saskatchewan .....	925	955	959	5.1	4.8	4.6
Alberta .....	1,332	1,463	1,561	7.3	7.3	7.4
British Columbia .....	1,629	1,874	2,067	8.9	9.3	9.8
Yukon .....	15	14	15	0.1	0.1	0.1
Northwest Territories .....	23	29	32	0.1	0.1	0.2

The growth in the Canadian population during the decade beginning in 1960 has been associated with a significant increase in the population living in urban centres. According to the 1961 census about 11.2 millions or 62 per

cent of all Canadians lived in urban centres having populations of 5,000 and over; by 1966 this segment of the population had risen to 65 per cent or about 13 millions. There were 325 urban centres with a population of 5,000 and over in 1966 and only 306 at the time of the 1961 census. A total of 40 cities registered populations of 50,000 or more at the time of the 1966 census; there were 29 such cities in 1961.

This urban growth is brought sharply into light by the population of metropolitan areas as reflected in the 1966 census; the total population of the 19 metropolitan areas (including the city proper and suburban parts) increased by 15 per cent in the 1961-66 period while that of the rest of Canada increased by only 5 per cent. These 19 areas accounted for 71 per cent or 1.3 million of the 1.8 million gain in Canada's population during this five year period.

**Population of Major Metropolitan Areas, 1956, 1961, and 1966<sup>1</sup>**

Metropolitan Area <sup>2</sup>	1956	1961	1966
Calgary .....	201,022	279,062	330,575
Edmonton .....	254,800	337,568	401,299
Hamilton .....	338,294	395,189	449,116
London .....	154,453	181,283	207,396
Montreal .....	1,746,069	2,110,679	2,436,817
Ottawa .....	345,469	429,761	494,535
Quebec .....	311,604	357,568	413,397
Regina .....	89,881	112,176	131,127
Saskatoon .....	73,015	95,564	115,892
Toronto .....	1,502,343	1,824,589	2,158,496
Vancouver .....	665,017	790,165	892,286
Windsor .....	185,865	193,365	211,697
Winnipeg .....	412,532	476,543	508,759

<sup>1</sup> With 100,000 population or over in the city proper at the 1966 census.

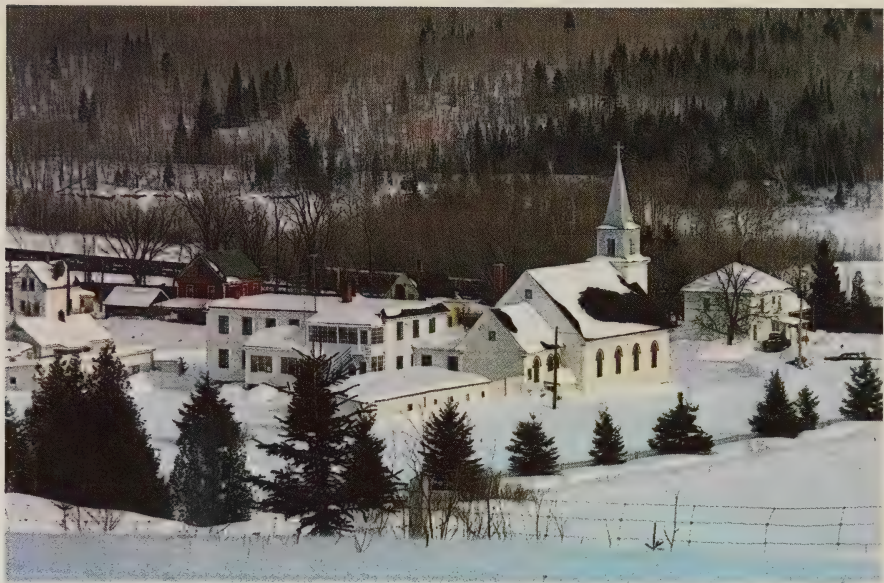
<sup>2</sup> Area as of the 1966 census.

Continued population gains in urban areas at the expense of rural areas are shown in the 1966 census: whereas 69.6 and 30.4 per cent of Canada's total population lived in urban and rural areas respectively in 1961, the proportion had changed to 73.6 and 26.4 per cent by 1966. (The definition of the urban areas covered all cities, towns of 1,000 population and over, whether incorporated or not, as well as the urbanized fringes of cities of 10,000 population and over. The remainder of the population is classed as rural.) The rural population is further subdivided into those living on census farms (farms of one acre or larger with annual sales of \$50 or more) and those who belong to the rural non-farm population.

Between 1961 and 1966, there was a decline of about a quarter of a million or 4.5 per cent in the rural population. Most of this decline occurred in the rural farm segment, which declined by about 159,000. During the same period the urban segment of the population increased by more than 2 million or 16 per cent. More than half of this gain occurred in cities of 500,000 and over.

There was a wide variation in the degree of urbanization of the provinces in 1966. The percentage of the urban population for each province in 1966





The inhabitants of Stickney, N.B., are classified as rural non-farm persons.

was as follows (1961 figures in brackets): Newfoundland 54.1 (50.7); Prince Edward Island 36.6 (32.4); Nova Scotia 58.1 (54.3); New Brunswick 50.6 (46.5); Quebec 78.3 (74.3); Ontario 80.4 (77.3); Manitoba 67.1 (63.9); Saskatchewan 49.0 (43.0); Alberta 68.8 (63.3); British Columbia 75.3 (72.6).

Rural and Urban Population, Canada and Provinces, 1966

Province or Territory	Total population	Rural	Urban <sup>1</sup>
<b>Canada</b> .....	<b>20,014,880</b>	<b>5,288,121</b>	<b>14,726,759</b>
Newfoundland .....	493,396	226,707	266,689
Prince Edward Island .....	108,535	68,788	39,747
Nova Scotia .....	756,039	317,132	438,907
New Brunswick .....	616,788	304,563	312,225
Quebec .....	5,780,845	1,255,731	4,525,114
Ontario .....	6,960,870	1,367,430	5,593,440
Manitoba .....	963,066	317,018	646,048
Saskatchewan .....	955,344	487,017	468,327
Alberta .....	1,463,203	455,796	1,007,407
British Columbia .....	1,873,674	463,181	1,410,493
Yukon Territory .....	14,382	7,554	6,828
Northwest Territories .....	28,738	17,204	11,534

<sup>1</sup> Includes persons living in centres of 1,000 and more.

The distribution of population by sex and by province in 1961, 1966, and

1969 indicates a very interesting pattern. Over the years the number of males per thousand females has been steadily declining. However in all but Quebec and Ontario, the males outnumber females. Quebec has 994 males per 1,000 females while Ontario has 998 males per 1,000 females. Yukon and the Northwest Territories have significantly more males than females. But the sex ratio (defined as males per thousand females) is gradually changing in favour of females in all provinces. For all of Canada in 1969, there were an estimated 1,006 males per 1,000 females.

### Distribution of Population by Sex and by Province for 1961, 1966, and 1969

Province or Territory	Population in thousands						Males per 1000 females		
	1961		1966		1969		1961	1966	1969
	Males	Females	Males	Females	Males	Females			
<b>Canada</b> .....	<b>9,219</b>	<b>9,019</b>	<b>10,054</b>	<b>9,961</b>	<b>10,564</b>	<b>10,497</b>	<b>1,022</b>	<b>1,009</b>	<b>1,006</b>
Nfld. ....	235	223	252	241	262	252	1,054	1,045	1,041
P.E.I. ....	53	51	55	54	56	55	1,041	1,026	1,018
N.S. ....	374	363	381	376	383	380	1,032	1,013	1,007
N.B. ....	302	295	310	307	313	312	1,023	1,011	1,005
Que. ....	2,632	2,627	2,886	2,895	2,982	3,002	1,002	997	994
Ont. ....	3,135	3,102	3,479	3,482	3,722	3,730	1,011	999	998
Man. ....	469	453	484	479	491	488	1,034	1,011	1,005
Sask. ....	480	446	489	466	489	470	1,076	1,049	1,039
Alta. ....	689	643	746	717	794	767	1,073	1,041	1,035
B.C. ....	829	800	949	925	1,047	1,020	1,036	1,025	1,026
Y.T. ....	8	6	8	7	8	7	1,268	1,187	1,174
N.W.T. ....	13	10	16	13	17	15	1,260	1,182	1,162

### Numerical and Percentage Distribution of Population by Age Group, 1961, 1966, and 1969

Age group	Numerical distribution in thousands <sup>1</sup>				Percentage distribution	
	1961	1966	1969	1961	1966	1969
<b>Total</b> .....	<b>18,238</b>	<b>20,015</b>	<b>21,061</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
0- 4 .....	2,256	2,198	1,939	12.4	11.0	9.2
5- 9 .....	2,080	2,309	2,325	11.4	11.5	11.0
10-14 .....	1,856	2,093	2,254	10.2	10.5	10.7
15-19 .....	1,433	1,838	2,018	7.8	9.2	9.6
20-24 .....	1,184	1,461	1,761	6.5	7.3	8.4
25-29 .....	1,209	1,241	1,431	6.6	6.2	6.8
30-34 .....	1,271	1,241	1,270	7.0	6.2	6.0
35-39 .....	1,271	1,286	1,282	7.0	6.4	6.1
40-44 .....	1,119	1,257	1,295	6.1	6.3	6.2
45-49 .....	1,016	1,090	1,191	5.6	5.4	5.7
50-54 .....	863	988	1,032	4.7	4.9	4.9
55-59 .....	704	816	904	3.9	4.1	4.3
60-64 .....	584	663	723	3.2	3.3	3.4
65-69 .....	487	532	569	2.7	2.7	2.7
70-74 .....	402	427	443	2.2	2.1	2.1
75-79 .....	274	300	323	1.5	1.5	1.5
80+ .....	227	280	304	1.2	1.4	1.4

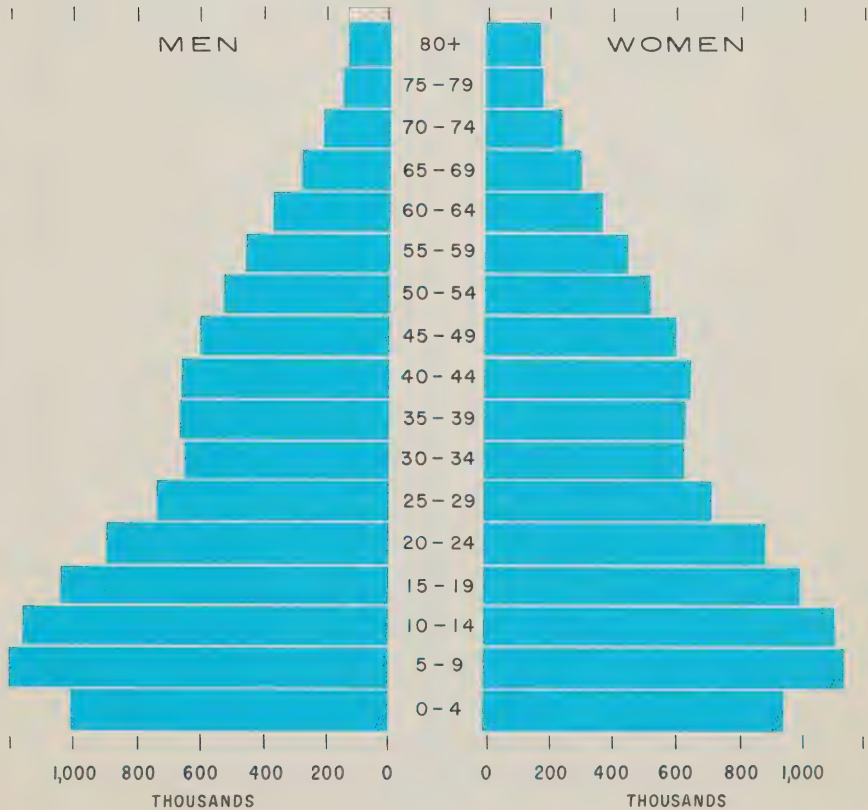
<sup>1</sup> Figures may not add owing to rounding.

The distribution of population by age in 1961, 1966 and 1969 indicates that the proportion under 15 is steadily declining. In 1961 the population under 15 constituted 33.9 per cent of the total and 32.9 and 30.9 respectively in 1966 and 1969. At the same time, the population in the labour force age group (15 to 64) has proportionately increased from 58.4 per cent in 1961 to 59.4 and 61.4 per cent respectively in 1966 and 1969. The proportion of population aged 65 and over, however, has remained constant at about 7.7 per cent.

The following chart shows the age and sex pyramid for the 1969 estimated population for the whole of Canada. It may be remarked that the numbers in age group 0-4 have diminished significantly in recent years and the pyramid stands on a narrower base. This situation will have appreciable effects on the numbers entering school and the work force in the future.

The components of population change (for the nation as a whole) are births, deaths, immigration, and emigration. The following table shows the number of births, deaths, immigrants, and emigrants during the periods

Age and Sex Distribution of Population, 1969 (Estimated)





1961-66 and 1966-69. It is found that the births averaged about 450,000 a year during the inter-censal period 1961-66 but the average declined to 371,000 during the post-censal period 1966 to 1969. During the same periods the deaths per year have averaged 146,000 and 152,000 respectively. One of the factors that accounts for the increase in the number of deaths is the increasing numbers in the older age groups.

Immigrants averaged 107,700 a year during the period 1961-66 and the average increased to 196,600 during the three year post-censal period, 1966-69. During the same intervals emigrants per year averaged 56,000 and 67,000 respectively.

### Components of Population Change for Canada, 1961-66 and 1967-69

(Figures in thousands)

Census population		Births	Deaths	Immi-grants	Emi-grants	Population at end of period
1961 = 18,238		During the period 1961-66				
	Total number	2,249	731	539	280	20,015
	Average per year	450	146	108	56	
		During the period 1967-69				
1966 = 20,015						
	Total number	1,113	456	590	201	21,061
	Average per year	371	152	197	67	

On June 1, 1968, the estimated number of families in Canada — excluding the Yukon and the Northwest Territories — was 4,696,000, an increase of 178,000 or 3.9 per cent since the 1966 census, and of 556,000 or 13.4 per cent since the 1961 census. The average number of persons per family in Canada on June 1, 1968, was 3.9, the same as in the 1961 and 1966 censuses. The population living in families constituted 88.7 per cent of the total population of Canada on June 1, 1968. The average family was largest in Quebec and the Atlantic Provinces at 4.2 persons in a family, followed by the Prairie Provinces at 3.9 persons and Ontario at 3.7, while British Columbia had the smallest average size at 3.6 persons a family.

In June 1968 the average number of children in a family remained unchanged from the 1961 and 1966 censuses, at 1.9. It should be mentioned that by children in a family is meant the number of unmarried children, under 25 years of age, living at home on June 1, 1968.

The combined number of families with no children, accounting for 28.7 per cent of all families, or only one child showed a slight increase at 48.7 per cent as compared with 48.4 per cent at the 1966 census and a small decrease from the 49.6 per cent of all families as shown at the 1961 census. By contrast, families with three or four children — 21.7 per cent of all families in June 1968 — showed a slight decrease from the 1966 census figure of 21.9

per cent and an increase over the 20.9 per cent recorded in the 1961 census. Families with five or more children in 1968 accounted for 8.9 per cent of all families in Canada; in the 1966 census they accounted for 9.2 per cent.

The 1968 estimates show marked differences between regions in the number of children in a family. Families with no children, for example, were only 25.6 per cent of all families in Quebec and 26.6 in the Atlantic Provinces, but constituted 30.0 per cent in Ontario, 30.7 per cent in the Prairie Provinces, and 31.3 per cent of the total in British Columbia. On the other hand, families comprising five or more children accounted for 13.1 per cent of all families in the Atlantic Provinces and Quebec, 6.8 per cent in the Prairie Provinces, and 6.6 per cent and 5.8 per cent respectively, in Ontario and British Columbia.

### Population 15 Years and Over by Marital Status, 1956, 1961, 1966

Marital status	Numerical distribution			Percentage distribution			Per-centage increase
	1956	1961	1966	1956	1961	1966	1961-66
<b>Population 15 and over .</b>	<b>10,855,581</b>	<b>12,046,325</b>	<b>13,423,123</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>11.4</b>
Single 15 and over ...	2,960,929	3,191,206	3,764,833	27.3	26.5	28.0	18.0
Married .....	7,146,673	8,024,304	8,723,217	65.8	66.6	65.0	8.7
Widowed .....	711,211	778,223	870,297	6.6	6.5	6.5	11.8
Divorced .....	36,768	52,592	64,776	0.3	0.4	0.5	23.2

According to the 1968 family estimates for Canada 28.8 per cent of the heads of "normal" families, that is, families with both husband and wife living at home, were under 35 years of age, 24.7 per cent between 35 and 44 years, 20.8 per cent between 45 and 54 years, 14.7 per cent between 55 and 64 years and 11.0 per cent over 65 years of age.

Canada's single population 15 years of age and over increased by 18 per cent in the 1961-66 period but only by 8 per cent in 1956-61 and by 5 per cent in 1951-56. The marked increase in the single adult population is mainly the result of a substantially larger number of persons in the young adult ages who were born in the postwar period when the birth rate was high. In contrast, the married population increased by 8.7 per cent between 1961 and 1966; the gain in the previous five-year period was 12.3 per cent. The combined widowed and divorced population increased by 12.5 per cent in 1961-66; it was 11.1 per cent between 1956 and 1961.

Provincially, the largest proportion of single people in the adult population lived in the Northwest Territories and Quebec, 33.8 per cent and 33.1 per cent respectively; the smallest proportion was in British Columbia, 24.6 per cent. Ontario, with 67.6 per cent showed the largest percentage of its population 15 years of age and over to be married, while Prince Edward Island showed the smallest, 60.5 per cent.

British Columbia, with 8.4 per cent, had proportionally more widowed and divorced persons than other provinces while the smallest proportions were recorded in the Yukon and the Northwest Territories, 4.9 per cent in each, and in Quebec, 5.8 per cent.

## Immigration

Immigration has profoundly affected Canada's postwar growth and prosperity. By the end of 1968 more than 3 million immigrants had arrived in Canada since 1946, and 20 per cent of Canada's population growth during that period was due to immigration. Approximately one in seven Canadians is a postwar immigrant.

Peak years for immigration since the war were 1957, when 282,164 persons were received, and Centennial year, 1967, when 222,876 were admitted. But there has been a steady flow of immigrants. In 1968, 183,974 were admitted, and in 1969, 161,531 settled in Canada.

Since Confederation almost 10 million immigrants have come to Canada, and on January 1, 1970, the number of Canadian residents born outside the country was over 3 million.

During 1968, the last full year for which statistics are available, immigrants from Britain and Ireland represented 21.4 per cent of the total. Other large groups came from the United States (11.1 per cent), Italy (10.8 per cent), Germany (4.8 per cent), China (4.6 per cent), France and Austria (each 4.4 per cent), Greece and Portugal (each 4.2 per cent), and the West Indies (4.1 per cent).

New Canadians perform a Tibetan scarf dance in Vancouver.





Canada's labour force during 1968 was augmented by 95,446 immigrant workers. Of these 32.4 per cent were classed in the manufacturing, mechanical, or construction trades and 33.1 per cent in the professional or managerial categories. Labouring groups made up 2.8 per cent, and 3.3 per cent were classed as agricultural workers.

Early figures for 1969 indicate that the numbers of skilled and professional immigrants continue to be high while the numbers of semi-skilled and unskilled immigrants are declining.

Postwar immigration figures based on the years 1946-68 inclusive show the following settlement of immigrants by areas: Ontario 52.6 per cent, Quebec 20.6 per cent, Prairies 13.3 per cent, British Columbia 10.6 per cent, the Atlantic Provinces 2.6 per cent, the Northwest Territories 0.1 per cent, and unspecified 0.2 per cent.

An Assisted Passage Loan plan was introduced in 1951 to help those who might not be able to come to Canada because of financial circumstances. Up to the end of 1969, 305,441 persons had received assistance, and a total of \$54,835,000 had been advanced; most of it was repaid. In 1969 itself, 8,987 persons were granted loans totalling \$2,714,000.

On October 1, 1967, new immigration regulations came into effect, and the principles governing the selection of immigrants were spelled out in detail. An assessment system permits immigration officers to apply the same standards in the same way to potential immigrants from all areas of the world. The regulations formally confirm that Canadian citizens or permanent residents of Canada are entitled to bring their dependents to Canada; the privilege of citizens or permanent residents in applying for more distant relatives to come to Canada is extended to all areas of the world and new classes of relatives become eligible for this assistance.

By linking selection standards to conditions within Canada, the new regulations seek to ensure a flow of immigrants suited to the economic and manpower requirements of Canada. They make a clear distinction between dependents and relatives entering the work force. There are three categories of immigrants: "sponsored dependents" "nominated (non-dependent) relatives," and "independent applicants," who are neither sponsored nor nominated.

Sponsored dependents are admitted to Canada provided they are in good health and of good character. Independent applicants must meet certain standards under an assessment system based on education and training, pre-arranged employment, personal assessment, occupational demand, occupational skill, age, knowledge of French or English, relatives in Canada, and employment opportunities in the area of destination.

The regulations also provide for admission to Canada on humanitarian grounds, and an example of this was provided when Czechoslovakia was invaded in 1968. Approximately 12,000 Czechs and Slovaks were admitted to Canada through special arrangements.

Canadian Immigration offices — or the services of an immigration officer — are maintained in Australia, Austria, Belgium, Denmark, Egypt, France, Germany, Greece, Hong Kong, Hungary, India, Ireland, Israel, Italy, Jamaica,

Japan, Lebanon, the Netherlands, Pakistan, the Philippines, Portugal, Spain, Sweden, Switzerland, Trinidad, Yugoslavia, Britain, and the United States. In other countries the Department of External Affairs, through its missions abroad (or through British diplomatic or consular offices) takes care of the interests of Canadian Immigration.

## Citizenship

Inter-group understanding and community involvement are the special concerns of the Citizenship Branch of the Department of the Secretary of State. To strengthen Canadian unity and identity the Citizenship Branch works closely with voluntary agencies and organizations through sixteen regional offices. This national network is staffed by representatives of both Citizenship and the Social Action Programs.

Human rights, immigrant participation, Indian-Eskimo participation, and travel and exchange programs are all directed by the Citizenship Branch. The planning and analysis of the needs and priorities that guide the Branch are provided by the Research and Documentation Division.

The Immigrant Participation Division assists immigrants to become fully developed Canadian citizens through their participation in the social and cultural life of the community in which they live. It encourages newcomers to learn either of the official languages and provides facilities for study. It also responds to requests for cultural assistance from organized groups.

The Indian-Eskimo Participation Division provides support for Friendship Centres, of which there were twenty-eight in 1969, and for other Indian organizations. The Human Rights Division contributes to Canada's International Human Rights efforts, and is responsible for national educational programs and celebrations such as the International Year for Human Rights in 1968. The Travel and Exchange Division directs the interprovincial exchange programs for young people carried out by voluntary organizations.

**Official Languages.** Canada is a multicultural community, with two official languages. With the passing of the Official Languages Act in 1969, four new branches were created in the Department of the Secretary of State: a Languages Administration Branch, a Public Service Bilingualism Programs Branch, a Social Action Branch, and a Planning and Research Branch. The federal government supports English- and French-language teaching across Canada through federal-provincial agreements.

## CITIZENSHIP REGISTRATION BRANCH

There have been over 1,092,887 grants of citizenship since 1947 and the annual total currently runs close to 60,000. These grants are processed by the Citizenship Registration Branch, which is responsible for the administration of the Canadian Citizenship Act and Regulations. The branch deals with the acquisition and loss of citizenship, naturalization and proof of status as well as other related applications.

Hungarians in national costume at the annual celebrations for New Canadians at Cap-de-la-Madeleine, Que.



A staff of two hundred operate the headquarters in Ottawa and thirteen Citizenship Courts in the principal cities. Less populated areas and isolated districts are served by circuit courts. The normal courts of law also handle citizenship cases, as do other government offices and appointed officials, so that the services of the branch are available in remote areas of the country.

The main task of the branch is to give the public continuous service. Besides dealing with the annual case load of approximately 120,000 applications of various kinds the branch must interpret the Act and Regulations, and on occasion propose revisions to them, as well as review procedures.

The Branch also seeks to enlist the help of clubs, ethnic associations, and other community groups in reaching those who can apply for citizenship and in arousing the interest of the public.

**Natural claims to citizenship.** Natural claims to citizenship are normally derived through parents or by birth within the boundaries of a country. Canada allows both these types of claims, but restricts citizenship acquired through the parents to the father. There are also a number of special clauses to qualify certain categories, such as British subjects or wives of Canadian citizens, who have been legally admitted and were resident in this country prior to 1947 when the present legislation was introduced.

**Citizenship by grant.** Citizenship may also be acquired by a ministerial grant once application has been made and the requirements have been met. The basic requirements are residence for five years (reduced to one year for the wife of a Canadian citizen), a good character, a knowledge of one of the official languages, an understanding of the responsibilities and privileges of citizenship, the intention to remain in the country as a permanent resident, and acceptance of allegiance to Canada. There are also special provisions dealing with minor children.



## Indians

In June of 1969 a series of proposals outlining a new Indian policy was put before Parliament by the Minister of Indian Affairs and Northern Development. These proposals were the outcome of fifteen public meetings held during the preceding twelve months in various parts of Canada at which representatives of 558 Indian bands were invited to discuss how the Indian Act should be changed and to outline their views of what they thought such an act should contain and how their people would best be served. The Government's proposed new Indian policy brought into focus the desire and

Ernie Phillips of the Shuswap tribe of British Columbia performs the Eagle Dance, one of the traditional dances of the Plains Indians, at the Princess Festival at Cultus Lake, B.C.



determination of the Indian people and the Canadian Government to achieve a non-discriminatory society in which services would be equally extended to Indians and other Canadian citizens.

Canada's Indian people share a rich diversity of cultures which stem from six major cultural groups and areas. These are the Algonkian in the eastern and central woodland; the Iroquoian in southeastern Ontario; the Mackenzie River system in the woodland north of the Churchill River; the Plains area on the Prairies; the Plateau area in central British Columbia and the Yukon, and the Pacific Coast area in British Columbia. There are ten linguistic groups with 54 related languages and dialects, the largest of which is the Algonkian. The land of the Indian people comprises 2,279 reserves covering more than six million acres. It is set aside for their use and benefit and is held in trust by the Canadian government.

From these diversified people have come many of the foods which are common to most North Americans today and the Indians have bequeathed to Canada a rich heritage of place names and words in common use. A resurgence of Indian art and culture was displayed at a pavilion conceived and designed by Indians for Expo 67 where carvings, handicrafts, and art displays by Indian artists and craftsmen extended the influence of their cultural heritage. A book by noted Indian author and artist George Clutesi has been selected as recommended reading in the grade schools of British Columbia, and Indian artists are receiving acclaim at art displays throughout the world.

Indian people were for many years isolated from much of Canadian life partly because of the remoteness of their communities, and partly because of the barriers raised by separate educational systems and other institutions. However, these barriers are breaking down as fast as the Indian population increases and acquires more formal education.

Most Indians have their homes in reserves for their exclusive use. There are now over 230,000 Indian people living in Canada and their numbers are growing by nearly 3 per cent a year. Half the Indian people are under sixteen years of age and more of this youthful population is now enrolled in schools than ever before. There are now more than 70,000 Indian children and young people attending school, more than half in schools operated by provincial and local authorities. Nearly 7,000 attend kindergarten to help them overcome the handicaps created by language and cultural differences. The number of Indian students and adults enrolled in university and upgrading courses has increased dramatically in the past decade, and today Indians are prominent in every profession while many others are employed as workmen in a variety of industries.

The Resources and Development Division of the Department of Indian Affairs and Northern Development recognizes the improved level of Indian education and the will of Indians to self-determination by assisting band councils to attract business and industry to their reserves. An example of the initiative taken by Indians is the major manufacturing plant built on the Blood reserve near Lethbridge, Alta. The largest of its kind on a reserve, it provides incentive for other Indian bands across Canada to become independent participants in the modern industrial society.



## Eskimos

Most of Canada's 16,000 Eskimos live in communities in the Northwest Territories. The rest live in Arctic Quebec (3,200), Labrador (1,200), and Manitoba (365). Since 1955 when the government began to take a more active interest in the North, considerable progress has been made towards improving health standards, medical care, and education, and towards establishing permanent communities in which these services can be offered.

As a result of a higher standard of living, the Eskimo birth rate is increasing from year to year. In 1969 it was 55 per 1,000 compared with the Canadian average of 18 per 1,000. In 1969, 95 per cent of school-age Eskimo children were at school. Most of these were in community schools in which grades one to six are taught. Those who continue their education move to larger communities to attend secondary or vocational schools. There are six high schools in the Northwest Territories and there will soon be a seventh. Vocational schooling is available in Yellowknife and pre-vocational courses are given in Churchill, Man. When Eskimo children must leave their communities to continue their education, the government provides transportation, room and board, clothing, and a weekly allowance. A number of Eskimos have learned trades and special skills and have become pilots, heavy equipment operators, classroom assistants, hairdressers, and nurses' aides. One Eskimo is a member of the Northwest Territories Council and many others are active in local community organizations.

These Eskimo graduates of a course sponsored by the federal government at the Alberta Petroleum Industry Training Centre are working on the explorations of Panarctic Oils Ltd. in the Arctic.





## POPULATION

In the Aberdeen Lake area of the Northwest Territories, a father teaches his son to spot caribou with a telescope.



It appears that Eskimo students are reaching an educational level that will allow them to continue their education and training beyond present grades and thereby to gain employment, to engage in certain business tasks, to take part in politics, and to travel with confidence in the South. Although school instruction has been in English, the Eskimo language is now being emphasized, especially in the lower grades.

Although many Eskimos still exist on what they earn from hunting and trapping, an increasing number work for wages or are engaged in cottage industry. Co-operative efforts in canning and marketing gourmet Arctic foods, in manufacturing parkas, in handicrafts and in sculpture, netted the co-operatives \$1,500,000 in 1969. Working in local stores, with mining companies, or for the government are other common employments. Since new industries will be needed in the future to provide employment, the federal and the Northwest Territories governments carry out economic surveys to pinpoint possible areas of development of both secondary and primary industry. They offer incentives to those who wish to develop the North and have set up machinery to encourage native employment by developers.

A five-year northern housing program was initiated by the Government in 1965. To date about 1,200 three-bedroom houses have been provided for Eskimo families. The rent paid by the Eskimos for these houses covers basic services such as electricity, water, fuel oil, and garbage collection. Regular payments toward the purchase of the houses can be made.

Medical care is the responsibility of the Department of National Health and Welfare. There are 10 hospitals in the Northwest Territories, 19 nursing stations, 8 health stations, and 6 health centres. Eskimos are flown out to medical centres by the government if there is no such centre in their community.

Responsibility for education, welfare, and municipal services in the Northwest Territories has been transferred from the federal government to the Territorial Government in Yellowknife. Other "provincial government" functions will gradually be assumed by the Territorial Government. The Department of Indian Affairs and Northern Development will continue to manage the natural resources of the Northwest Territories.

## Health Care for Canadians

Responsibility for the administration of health care services in Canada is a direct concern of provincial governments, with municipalities often exercising considerable authority over matters delegated to them by provincial legislatures. The federal government has jurisdiction over a number of health matters of national scope and provides important financial assistance to provincial health and hospital services. All levels of government are aided by a network of voluntary agencies in different health fields.

Advances in medicine and the development of better health services have contributed to a pronounced improvement in the health of Canadians during recent decades. In the period 1941-68, life expectancy at birth for men rose from 63 to 69 years and for women, from 66 to 75.5 years. The infant mortality rate fell steadily from 51 per 1,000 live births in 1941 to 21 in 1968. The proportion of births taking place in hospitals rose from 49 to 99.5 per cent. The maternal mortality rate dropped from 36 to 2.7 per 100,000 live births. The three leading causes of death in 1968 were circulatory diseases, tumours, and diseases of the nervous system and sense-organs, which mainly affected persons over 45 years of age, whereas accidental deaths, the fourth ranking cause, were most common among younger adults.

The Department of National Health and Welfare is the chief federal agency in health matters. In conjunction with other federal agencies and with provincial and local health agencies, it works to raise the health level of all Canadians and to provide assistance to the many who cannot or can only partially assist themselves in the business of daily living. Through the Food and Drug Directorate, the Department is responsible for protecting the Canadian consumer from hazards to health of the foods, drugs, cosmetics, and medical devices sold to the public. The Department operates quarantine and immigration medical services and provides health services to Indians and Eskimos and other special groups. It also advises and provides consultative services to provincial and local health agencies on numerous matters concerning the health of Canadians.

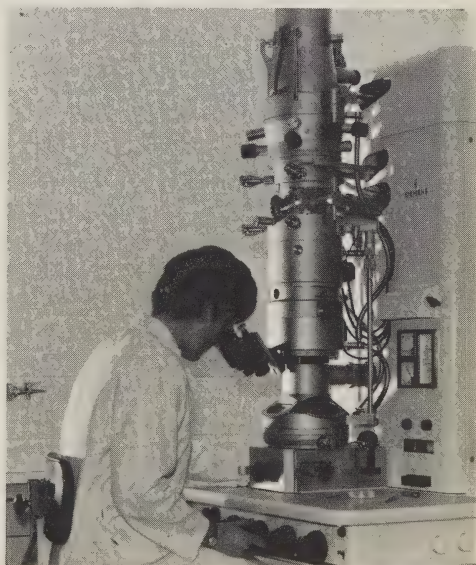
Federal health services in Canada include a wide range of interrelated programs. Under the Medical Care Act the federal government contributes 50 per cent of the average costs for each person of provincial medical insurance plans meeting specified conditions. The Hospital Insurance and Diagnostic Services Act entitles all Canadians to hospital care. The Health Resources Fund provides the provinces with up to 50 per cent of capital costs towards the building, renovating, or equipping of facilities for research and for training medical personnel. The National Health Grants are designed to broaden basic health services and control specific diseases. (The foregoing programs are dealt with separately below.) Under the Canada Assistance Plan, the federal government contributes 50 per cent of the costs of health care services that provinces make available to persons who are eligible because of proven financial need.

Other important measures to improve the health of Canadians include public education programs on smoking to reduce the incidence of lung cancer and other diseases attributable to cigarette smoking, on maternal and child health to reduce infant and maternal mortality, and on environmental health to strive to eliminate harmful industrial and other chemical wastes from the environment. The Department has also developed a comprehensive program to protect the public from harmful radiation resulting from the use of radioactive materials. Pollution control in Canada has traditionally been a provincial responsibility, but the Department of National Health and Welfare gives consultative and technical assistance for the investigation and control of specific pollution problems in many parts of the country. It has established a national sampling network to provide useful information on the quality of the air in Canadian cities. The Department also has direct responsibility to assist the International Joint Commission to cope with air pollutants crossing the Canadian-American border.

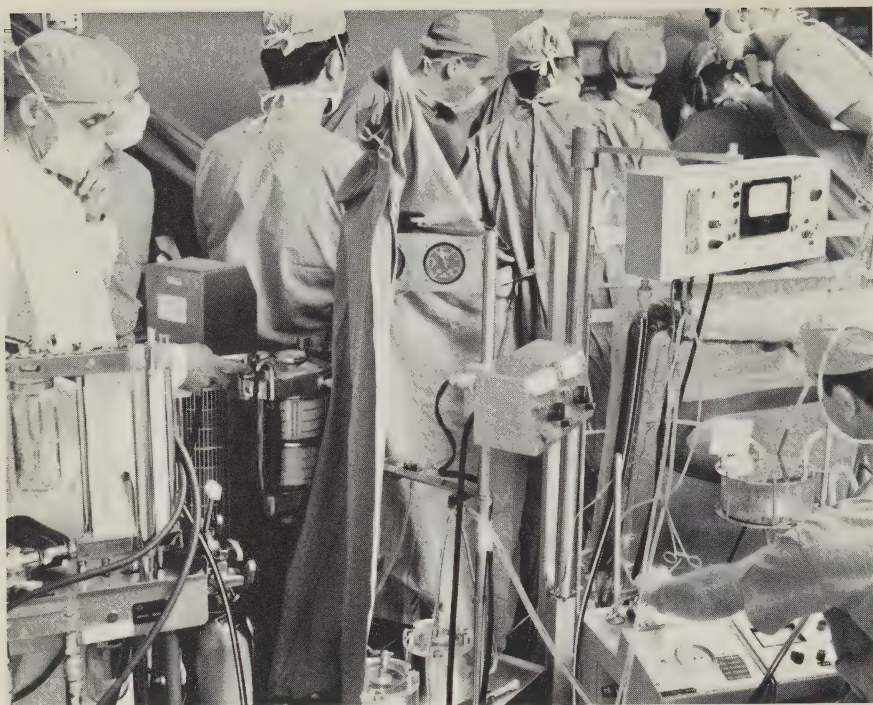
### Medical Care Program

The Medical Care Act was passed by Parliament in December 1966 and began to operate on July 1, 1968. Seven of the ten provinces had entered the federal medical care program by January 1970, and it is anticipated that Quebec, New Brunswick, Prince Edward Island, and the Territories will also have joined by the end of 1970. The Medical Care Act provides that the federal government contribute to any participating province half the cost for every person of all insured services furnished under the plans of all participating provinces multiplied by the number of insured persons in that province, provided that the provincial plan meets specified conditions.

A technician examines a specimen through an electron microscope at the Department of National Health and Welfare, Ottawa.







An impressive team of doctors, nurses, and technicians perform open heart surgery at the Institut de Cardiologie in Montreal, Que. On the right is a heart-lung machine.

These conditions are comprehensiveness of medical services, universality of coverage, administration by public authority, and portability of benefits between provinces.

Before the adoption of this Act about 20 per cent of the Canadian population did not have any form of protection against the rapidly rising costs of medical and surgical care; the rest had varying degrees of protection, in a wide range of private plans and public arrangements. Under the new program comprehensive insurance is available on equal terms and conditions to every resident of a participating province. This feature prevents any Canadian from being refused coverage because of his health, occupation, or age.

When every province has introduced a publicly-administered, nonprofit plan that meets the requirements of the Medical Care Act, the people of Canada will have truly comprehensive coverage against the costs of medically required services of physicians and surgeons, available to all residents and fully portable from province to province. The national average cost of providing such services in 1969 was estimated at about \$47.00 a person each year. The federal government contributes about half, leaving about \$23.50 a person to be raised by the provinces.

## **Hospital Insurance and Diagnostic Services**

The federal-provincial hospital insurance program now covers 99.5 per cent of the insurable population of Canada. The system of federal grants-in-aid to the provinces to meet about 50 per cent of the cost of specified hospital services is set out in the federal Hospital Insurance and Diagnostic Services Act of 1957. Under the Established Programs (Interim Arrangements) Act provinces can contract out of various federal-provincial programs, including hospital insurance, and on January 1, 1965, Quebec did so. Accordingly, the federal contribution to the Quebec hospital insurance program is made through tax abatement and not under the Hospital Insurance Act.

To participate in the program, a province is required to make available to all of its residents, under uniform terms and conditions, standard ward hospital care and other specified in-patient benefits including laboratory and radiological diagnostic services. The provinces also have the option of providing insured out-patient hospital services; the pattern varies considerably from province to province.

The provinces are responsible for determining methods of financing and administering the hospital insurance plans, as well as certain details concerning eligibility for benefits. Many provinces have extended the range of their insured out-patient services. Ontario added centres for treating cancer to its list of hospitals and British Columbia added certain facilities for long-term care. Ontario also raised the age limit for dependent status from 18 years to 20 years. During the fiscal year 1968-69, Quebec increased the amount payable for insured in-patient services provided in a hospital outside Canada and also added a few hospitals for the treatment of alcoholics and drug addicts to the list of those covered by federal-provincial agreements. Saskatchewan has included a provision for levying authorized charges.

Federal legislation applies only to services provided by approved active treatment, chronic, and convalescent institutions and related facilities; it specifically excludes mental hospitals, tuberculosis sanatoria, and custodial care institutions. Federal payments to the provinces under this program from July 1, 1958, to March 31, 1969, totalled about \$3,589 million and for the fiscal year 1968-69 alone amounted to \$562 million.

## **Health Resources Fund**

The federal Health Resources Fund Act in 1966 provided for the establishment of a fund of \$500 million to be applied to the costs between 1966 and 1980 of providing facilities for research and for training medical personnel to provide better health care services to Canadians. Payments from the fund may cover up to 50 per cent of the costs of functional planning, constructing, renovating, acquiring, and equipping facilities for education and research in health.

As of March 31, 1969, \$99 million had been approved for payment to the provinces, of which \$71 million had been expended. The Health Resources

Advisory Committee, which consists of the deputy minister of National Health as chairman and a member from each province, advises the Minister of National Health and Welfare on all aspects of the program and approves the provincial plans for the development of their facilities.



A company nurse treats an injured foot in the small hospital of Clinton Creek, Y.T., a community built by an asbestos mining company.

## National Health Grants

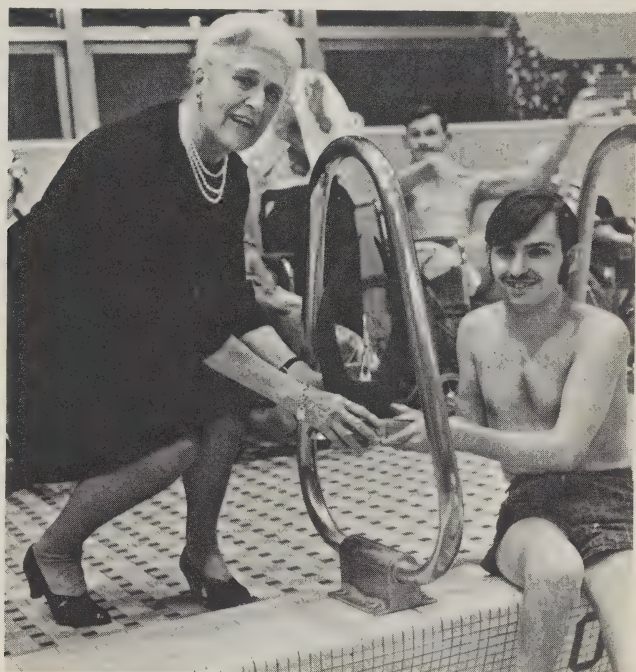
The National Health Grants program, begun in 1948, was established to assist the provinces in extending and improving public health and hospital services. By March 31, 1969, federal payments to provinces and territories had totalled \$808 million; \$280 million of this amount was provided for hospital construction and renovation and \$528 million (including payments made direct and those made under the Established Programs (Interim Arrangements) Act) for support of new or extended health services.

## Chronic Illness and Rehabilitation

Increased longevity resulting from effective measures against infant mortality and communicable disease, together with general advances in medical care and drugs, have focused professional and public attention on the control of chronic disease and long-term illness. Advances are being made in multiphasic screening for the detection of chronic conditions such as



diabetes and glaucoma; voluntary organizations co-operate with public agencies in this screening. Most larger general hospitals, and particularly teaching hospitals, have set up specialized out-patient clinics for arthritis, diabetes, cystic fibrosis, heart defects, cancer, orthopedics, and neurology.



Mme. Georges Vanier presents the prize to the winner of the swimming contest sponsored by the Montreal branch of the Cerebral Palsy Association.

Extended treatment wards in general hospitals, chronic-disease hospitals, nursing homes or homes for special care, domiciliary facilities for the aged and feeble, and day centres are available in most cities in Canada.

The success of programs for the rehabilitation of injured workers under provincial workmen's compensation, for war veterans through the Department of Veterans Affairs, and for handicapped children under various auspices has stimulated the expansion of rehabilitation services to the disabled. The Department of National Health and Welfare through its National Health Grant program has promoted the development of rehabilitation services. All provincial health departments have used these health grants as well as provincial funds to develop rehabilitation services and personnel in hospitals and rehabilitation centres and to establish specialized clinics for those with disabling conditions. Since January 1966 the Department has also assumed responsibility for nation-wide prosthetic services. There are three prosthetic and orthotic research and training centres in addition to the central prosthetic establishment (at Toronto), all supported under the National Health Grant program.

In co-operation with the federal Department of Manpower and Immigration, provincial health or welfare departments also administer vocational rehabilitation programs to restore disabled adults to gainful employment. Canada Manpower Centres place the handicapped in suitable employment, and some work in sheltered workshops. All provinces provide special educational facilities for handicapped children.

## Mental Illness and Mental Retardation

Governments and citizens' groups are developing special community resources to provide continuing care to the mentally ill and mentally retarded. The facilities of general hospitals and community psychiatric hospitals for short-term in-patient psychiatric therapy and related day care, emergency, and out-patient services have been expanded. The Canadian Mental Health Association through its White Cross Centres aids the social and vocational adjustment of discharged psychiatric patients. Its volunteers visit hospitals and entertain patients while forging stronger links between mental hospitals and community health and social agencies. Both mental hospitals and community agencies are developing industrial and sheltered workshops that pay the patients for work and provide occupational therapy and some job training.

The expansion of the training projects of the Canadian Association for Retarded Children and its provincial and local associations demonstrate the vigour of the volunteer movement to promote the welfare of the mentally retarded. Furthermore, the Department of National Health and Welfare has provided \$200,000 each year for five years for special health studies in the field of mental retardation.



The emotionally disturbed child is aided by teams of doctors, psychologists, social workers, and nurses.

## Health Science Research

Health science research in Canada is conducted primarily in the universities; its rapid development in the past twenty years is in part a reflection of the increased facilities and staff in the schools of medicine, dentistry, and pharmacy. At the end of the Second World War, there were nine medical schools in Canada and approximately 350 faculty members were engaged in medical research with some 300 research trainees under their supervision. Since then, seven more medical schools have been established. Two of them, at Memorial University in Newfoundland and McMaster University in Hamilton, Ont., accepted their first classes in 1969 and a third, at the University of Calgary, has yet to do so. Even in these schools research programs are well under way. The ten schools of dentistry and eight schools of pharmacy play an increasingly important role in the national health science research effort, and schools of veterinary medicine also have substantial programs bearing on human health. The total number of university-based researchers in the health sciences is now estimated to be 1,800, and there are some 2,000 graduates taking research training at the pre-doctoral or post-doctoral level.

This extensive program is necessary to ensure that the education of Canada's health professionals meets today's standards, and to enable the adaptation to Canadian needs of the discoveries made elsewhere. Its financing is done in partnership. The universities, assisted by the provincial and federal governments, provide the physical facilities for research and, for the most part, the salaries of faculty members who, in addition to teaching, initiate and carry out basic or applied research in the health sciences. The major source of support for the operating costs of health science research in Canada is the federal government. Eighty per cent of its support is channelled through the Medical Research Council, a departmental corporation which reports to Parliament through the Minister of National Health and Welfare. It maintains a small secretariat in Ottawa and is assisted by over 100 of Canada's leading scientists in the health science field who serve without remuneration on some twenty committees of the Council. University-based health research is also financed by the federal government through the Department of National Health and Welfare and the Defence Research Board when the projects are related to their specific interests.

There are in Canada no large national laboratories specifically devoted to health science research such as exist in Great Britain or the United States, but some research related to medicine is carried out in laboratories operated by the Department of National Health and Welfare, the Defence Research Board, the National Research Council, and Atomic Energy of Canada Limited. The Department of Veterans Affairs also supports research carried out by investigators in its own hospitals across the country.

The provincial governments support research indirectly through normal university grants, and some have in addition sponsored special programs





In the laboratory of the Institute of Health Science and Physical Fitness at the University of Quebec at Trois-Rivières, the effort required to run is tested.

related to health science research. Ontario, for instance, through the allocation of funds to provincial foundations, has contributed substantially to research in cancer, drug and alcohol addiction, and mental health. Quebec has a Medical Research Council which provides valuable research assistance for the initiation of programs by investigators newly appointed to universities in that province. The Council has other programs designed to complement those administered by federal agencies.

The funds provided by governments and the universities themselves are supplemented by the resources of voluntary agencies. The National Cancer Institute of Canada, the Canadian Heart Foundation and the Canadian Arthritis and Rheumatism Society, to mention only a few, have stimulated public awareness of the contribution to be made by research to the understanding and management of disease. For many years voluntary agencies have also assisted significantly in the training and support of scientists working in their particular fields of interest.

Canadian investigators have gained international recognition in such fields as endocrinology, brain research, organ transplantation, immunology, human genetics, open-heart surgery, and respiratory disease. Advances in other fields of research have had their impact on the health sciences and engineers, physicists, computer scientists, and psychologists play an increasingly important role in many health research centres. The orientation of Canadian health science research has also changed appreciably over the past few years. A decade ago it was heavily committed to basic research in the preclinical fields of anatomy, biochemistry, and physiology. Excellent work in these branches continues and the research effort has been greatly strengthened by the relatively recent expansion of research in clinical fields. Clinical research in the two large complexes at McGill and Toronto has been well developed for many years. Now work in this broad area has increased so much in all centres that half the funds spent by the Medical Research Council, for instance, on university-based research is for the support of applied and clinically-oriented projects.

## Social Welfare

Responsibility for social welfare is shared by all levels of government. The federal government administers the broad programs of social security and administers welfare services to those for whom it has a statutory responsibility—Indians, Eskimos, members of the Canadian Forces, and veterans. The provincial governments have primary responsibility for the administration of social assistance and welfare services which may be delegated to municipal authorities who are also given financial aid by the province. Under the Canada Assistance Plan administered by the Department of National Health and Welfare substantial federal aid is given to the provinces to help them meet the costs of social assistance, child welfare, and welfare services. These services are complemented by a wide range of social services provided by voluntary agencies.

The new National Council of Welfare, a council of citizens set up to advise the Minister of National Health and Welfare on welfare matters it deems relevant, was established in January 1970. Among its 21 members, the council includes representatives of low income groups, welfare recipients, and disadvantaged minority groups.

A number of social security and social assistance programs are available to assist Canadians through certain exigencies of their lifetime: retirement, disability, loss of the breadwinner, orphanhood, and need which may arise from various other circumstances. The Canada Pension Plan provides retirement, disability, and survivors benefits; the Old Age Security Act provides a monthly pension to all persons 65 years of age or over; the guaranteed income supplement provides additional income for old age security pensioners; family and youth allowances assist children and youths; financial assistance for needy persons, institutional care for children and adults, and other special services for individuals and families are available under provincial, municipal, and voluntary auspices.

**The Canada Pension Plan** introduced in 1966 is a contributory social insurance program. With its counterpart, the Quebec Pension Plan, it covers most of the Canadian labour force. Employees and employers both contribute at a rate of 1.8 per cent on earnings between \$600 and the maximum of pensionable earnings, which in 1970 was \$5,300 a year. The earnings ceiling is adjusted up to a maximum of 2 per cent in accordance with the Pension Index developed for the plan. Self-employed persons contribute 3.6 per cent of their earnings provided that these are at least \$800 a year. Monthly retirement pensions to persons 65 years of age or over are equal to 25 per cent of the contributor's average monthly pensionable earnings but are payable at reduced rates until 1976 when they become payable at their full rates. Survivors' benefits payable since February 1968 include pensions for widows, disabled widowers, and orphans, and a lump sum death benefit. Pensions became available in 1970 for contributors who become disabled, with additional benefits for their dependent children. Pensions are also adjusted each year on the basis of the Pension Index.

**Old Age Security.** The federal government pays a monthly pension to all persons aged 65 and over who meet the residence requirements. A person must have resided in Canada at least 10 years immediately before his application is approved; any gaps in this 10-year residence can be made up by periods of residence in earlier years equal to double the gap, provided the applicant has lived in Canada for one year before making an application. There are special residence rules for those who apply from outside Canada and for pensioners who leave Canada. Since 1968, the basic pension of \$75 has been increased annually by 2 per cent on the basis of the Pension Index. In 1970, the monthly pension was \$79.58.

The number of recipients of old age security was 1,540,901 by December 31, 1969, and payments for the 1968-69 fiscal year amounted to \$1,296,849,281.

**Guaranteed Income Supplement.** Old age security pensioners who have little or no other income may receive a supplement under the Guaranteed Income Supplement program introduced in 1967. The maximum supplement is 40 per cent of the old age security pension. The supplement is reduced by \$1.00 for every \$2.00 of income over and above the old age security pension; for example, when income is \$600 per year the supplement is reduced by \$300. When other income reaches \$768 per year no supplement is paid. A declaration is made each year on the preceding year's income and benefits in the current year are based on this declaration. Income is determined in the same way as under the Income Tax Act, and for each married applicant it is taken as one half of the combined income of the married couple. In 1970 the maximum supplement was \$31.83, which together with the old age security pension, guaranteed a pensioner a monthly payment of \$111.41.

On December 31, 1969, there were 788,288 persons receiving supplements. Expenditures for the fiscal year 1968-69 amounted to \$244,470,268.

**Family Allowances, Family Assistance, and Youth Allowances.** Family allowances are paid by the federal government to the mother on behalf of children under 16 years of age who were born in Canada or who have lived in Canada for one year. The monthly rate is \$6 for children under 10 years of age and \$8 for children aged 10-15.

On December 31, 1969, family allowances were being paid for 6,857,006 children in 2,967,733 families. Payments for the 1968-69 fiscal year amounted to \$560,186,052.

Family assistance is paid at the family allowance rates for each child under 16 without a year's residence and who is supported by an immigrant who has permanent residence in Canada, or by a Canadian returning to Canada to reside permanently. It is paid for a period of one year until the child is eligible for family allowances. On December 31, 1969, there were 26,719 children in 12,385 families receiving this form of assistance. Payments in the fiscal year 1968-69 amounted to \$3,467,605.

Children resident in Quebec may receive additional allowances under the Quebec Family Allowance Program introduced in 1967. These allowances





The computerized cheque-writers of the Department of National Health and Welfare issue some 5 million cheques a month.

are payable for Quebec children from birth until their sixteenth birthday at the annual rate of \$30 for one child, \$65 for two, \$105 for three, \$155 for four, \$215 for five, \$285 for six, and an extra \$70 for each child after the sixth. In addition, a \$10 annual supplementary allowance is payable for children aged 12 to 16 years inclusive.

Under the Youth Allowances Program introduced in 1964, \$10 a month is payable for children aged 16 and 17 who are attending school full time or who are unable to attend school because of mental or physical disability. Quebec established its own schooling allowances program in 1961; this parallels the federal program, which operates in the other provinces.

On December 31, 1969, allowances were being paid for 470,375 youths exclusive of those in Quebec. Federal expenditures on youth allowances for the fiscal year 1968-69 were \$52,457,272.

**Social Assistance.** Financial aid is available under provincial or municipal auspices to persons in need and their dependents. The costs of aid and of certain welfare services supplied to such needy persons are shared with the federal government under the Canada Assistance Plan. Persons assisted



The services of a homemaker can often help keep together families in which the mother is temporarily incapacitated.

include widows and other needy mothers with dependent children, persons who cannot work because of their age or because of mental or physical disability, unemployed persons, and persons whose benefits from other sources are not adequate to meet their needs. Allowances are granted to cover the basic needs of food, clothing, personal care and shelter, and to cover special needs such as household furnishings, school supplies, and homemaker services when necessary. Aid may also be given in the form of institutional care for elderly persons who are no longer able to look after themselves.

The special federal-provincial programs for disabled persons and blind persons under which allowances of \$75 a month are paid to needy persons with at least 10 years residence have been discontinued in a number of provinces and the needy blind and disabled are now assisted in these provinces under provincial social assistance programs without residence requirements. The old age assistance program for persons of 65 years ceased to exist in January 1970 when the qualifying age for old age security pensions had been lowered to 65 years.

## Other Welfare Services

Welfare services in communities are available from provincial, municipal, and voluntary agencies. These include child welfare services, programs for the elderly, public housing, nursery and day-care services, recreation, family and juvenile courts, counselling services, homemaker services, and services for special groups.

**Child Welfare.** The term "child welfare" refers particularly to services for the protection and care of children who are neglected or who are temporarily or permanently without parental care. Services include protection to children in their own homes, foster home care, adoption services, and services to unmarried parents. Child welfare services are administered by provincial departments of welfare or responsibility for their administration may be delegated under supervision to voluntary agencies, usually children's aid societies. The objective of these programs is to strengthen the family and if family life has broken down to provide substitute care for the children according to their needs. Special efforts are made to place handicapped children in adoption homes. The number of completed adoptions in Canada is currently about 16,000 per year.

There is a close relationship between the correctional and protection services for children since delinquent behaviour is often the result of neglect and consequently in a number of provinces child welfare services are also extended to delinquent children. Correctional institutions for juveniles are operated by the provincial authorities and in some provinces by religious organizations.

Public day-care services for children of working mothers have been developed only in one province, Ontario; voluntary day nurseries have been established in a few large centres. Commercial day nurseries are subject to provincial or municipal licensing.

**Services for the Aged.** A variety of community services under public and voluntary auspices serve older persons. These include information, counselling and referral services, friendly visiting, housing registries, and homemakers' services. Clubs and centres provide recreation and social activities. In some centres "meals-on-wheels" programs have been organized. Specially designed low-rental housing projects have been built for older persons, financed through federal low-interest loans and provincial, municipal, and voluntary funds. Institutions for older persons unable to care for themselves are operated under public, voluntary, or religious auspices.

## Fitness and Recreation

All provinces and most of the larger municipalities operate active fitness and recreation programs, both through the organization of community services and through the school systems.

The Federal Fitness and Amateur Sport Act of 1961 provides federal aid through direct grants to national organizations, to the provinces, and





The Province of Alberta has recently built, at Medicine Hat and Lamont, two modern homes for the aged that feature indoor gardens and increased accommodation in single rooms.

through the provision of direct services. The Department of National Health and Welfare administers the federal program with the aid of a National Advisory Council and a federal-provincial committee of officials. Grants are made to encourage amateur sport and to assist Canadian participation in international competitions.

## **International Welfare**

The Department of National Health and Welfare, in conjunction with the Department of External Affairs and the Canadian International Development Agency (CIDA), provides technical and other services in a number of areas in the international social welfare and development fields. The Deputy Minister of National Welfare is a member of the Executive Board of UNICEF, and the Director General, Special Programs Branch, represents Canada on the Commission for Social Development. The Department is also represented on the Canadian Committee of the International Council on Social Welfare, the International Labour Organization, the International Social Security Association, the Canadian Council for International Co-operation, the Canadian UNICEF Committee, and the International Union of Family Organizations.

## Veterans Affairs

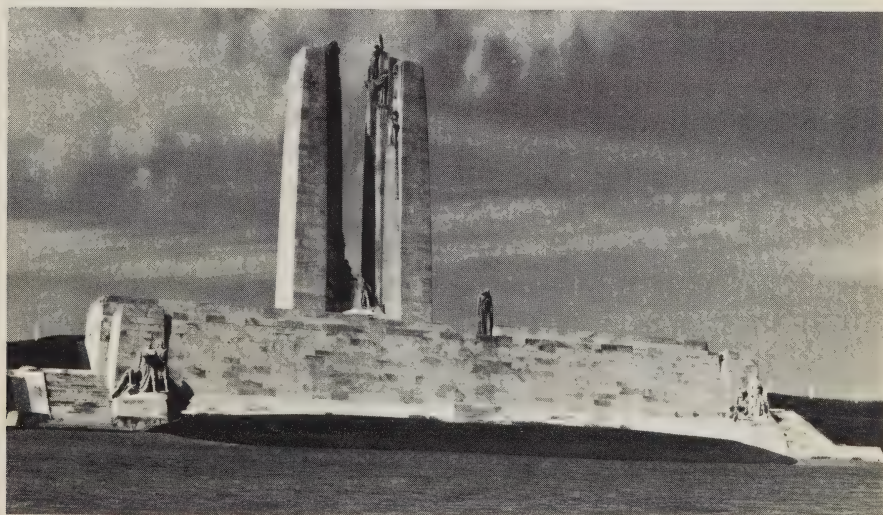
The Department of Veterans Affairs administers the continuing program of assistance to those of Canada's nearly one million veterans who need it by providing treatment, land settlement and home construction, welfare services, and so on, for eligible veterans and their dependents and educational assistance for children of the war dead.

Separate from the department but responsible to its Minister, the Canadian Pension Commission provides pensions for death and disability to some 134,000 veterans and to about 30,000 dependents, and the War Veterans Allowance Board pays allowances to over 50,000 eligible veterans and a further 32,000 dependents.

Because of the years which have passed since World War II ended, several benefits understandably have expired, chief of which were rehabilitation through educational and vocational training and gratuities for war service. Eligibility to apply for unused re-establishment credit and veterans' insurance expired in October 1968. At the end of 1969, 25,070 policies with a value of \$80,971,204 were in force.

The Children of War Dead (Education Assistance) Act provides tuition and allowances for post-secondary schooling to children receiving pensions because of the death of their fathers. Since the inception of the Act in 1953, 2,183 have completed their training, with the result that Canada has been given doctors, lawyers, nurses, engineers, teachers, dentists, clergymen, social workers, business administrators, technicians, and commercial artists. Some 939 students are currently in training.

The Vimy Memorial was built to honour the 60,000 Canadian soldiers killed in the First World War.







The new veterans' hospital at Ste-Anne-de-Bellevue, Que., built by the Department of Public Works for Veterans Affairs, has 1,065 beds and the latest facilities.

Treatment for their pensioned disabilities is given to veterans in the department's nine hospitals in Canada and also in non-departmental hospitals in Canada and abroad. Treatment for non-pensioned disabilities, where it is not provided under a federal-provincial hospital or medical care insurance plan, may also be given in Canada as a departmental responsibility to eligible veterans. Long-term care may be provided to qualified veterans in the nine departmental hospitals and three veterans homes in Canada. In 1969 DVA had 8,421 hospital beds in all institutions and treated 56,678 patients.

Loans and assistance to veterans to engage in full-time, part-time (small holding) farming, commercial fishing, or to build homes are provided by the Veterans' Land Act. Since the Act was passed in 1942, 120,920 veterans have received \$994,762,106 in loans of which 51 per cent or \$505,656,516 has been repaid. A further 150,000 have established their eligibility to qualify for the benefits of the Act and have until 1974 to do so.

The White Paper on Veterans Pensions—pensions for disability and death related to military service—is a statement of how the Government views the recommendations of the Woods Committee to Survey the Work and Organization of the Canadian Pension Commission and its proposals for amending the Pension Act to enable it to “fulfil its purpose in terms of present-day thinking and modern social justice.” The Paper was submitted to the Parliamentary Standing Committee on Veterans Affairs in September 1969 and deals with the recommendations of the Woods Committee, which had been submitted three months earlier.

Ceremonies commemorating the twenty-fifth anniversary of the Allied landings in Normandy on June 6, 1944, took place in June 1969, with Canada among the participating nations. The principal Canadian ceremony was held at the Beny-sur-Mer Canadian War Cemetery where are buried 2,043 Canadians who died in the D-Day landings and in the beachhead fighting.

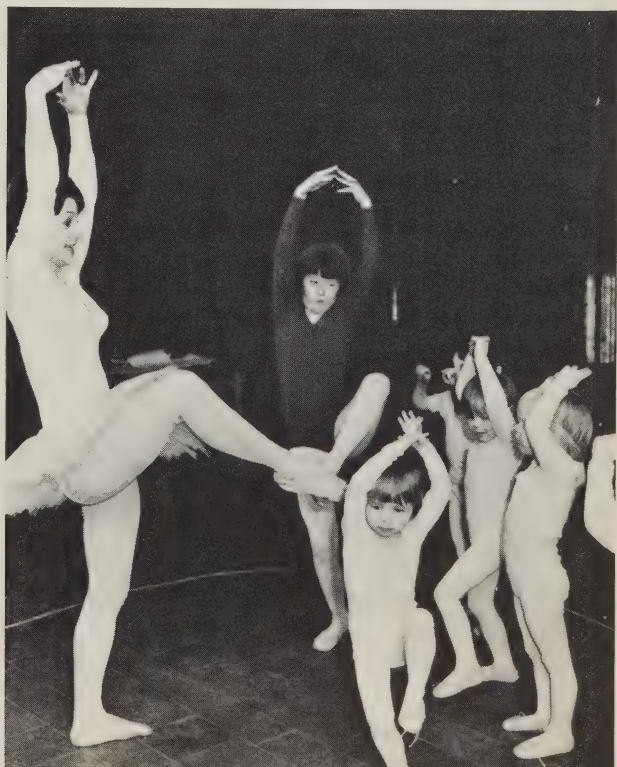


# Education

When the British North America Act united New Brunswick, Nova Scotia, Quebec, and Ontario in 1867, Section 93 provided that education would be a responsibility of the provinces, in accordance with the wishes they had expressed in the pre-Confederation discussions. This provision was maintained as other provinces joined Canada. Today, the provinces are responsible for the education of all persons except Indians, Eskimos, inmates of federal penitentiaries, and children of members of the armed forces on national defence stations: the education of these and children in the Territories is the responsibility of the federal government. It also makes grants to each province in support of universities and other post-secondary institutions and promotes research that assists educational institutions indirectly.

There is equality of educational opportunity in Canada, and the illiteracy rate is so small as to be considered nil. Many Canadians beyond school age have taken advantage of post-school educational opportunities. In 1968-69 the total enrolment in formal post-secondary institutions was of the order of 400,000. In addition, many thousands of adults attended non-credit courses. The continuing availability of educational facilities makes self-improvement and self-development accessible to all. Newcomers to Canada are prompt to take advantage of educational resources and of the attendant opportunities.

Children can begin dancing lessons at the age of three in this dancing school in Montreal.





In this class in British Columbia, the children are studying the history and geography of other provinces.

## Provincial Departments of Education

Educational organization, policies, and practices differ from one province to another. Each province has a Department of Education headed by a minister who is a member of the Cabinet. Each department is administered by a deputy minister who advises the minister, supervises the department, carries out and gives continuity to its policy, and is responsible for enforcing the Public Schools Act.

Most departments of education also include a chief inspector of schools and a staff of local inspectors; directors or supervisors of curricula, technical education, and teacher training; a registrar of examinations and teacher certification; and other officials in charge of guidance, audio-visual education, correspondence courses, and adult education.

Among other things, provincial departments of education undertake to provide supervisory services to ensure maintenance of standards; training and certification of teachers; courses of study and prescribed or approved text books; financial assistance to local school boards for the construction and operation of schools; and regulations for the guidance of trustees and teachers.



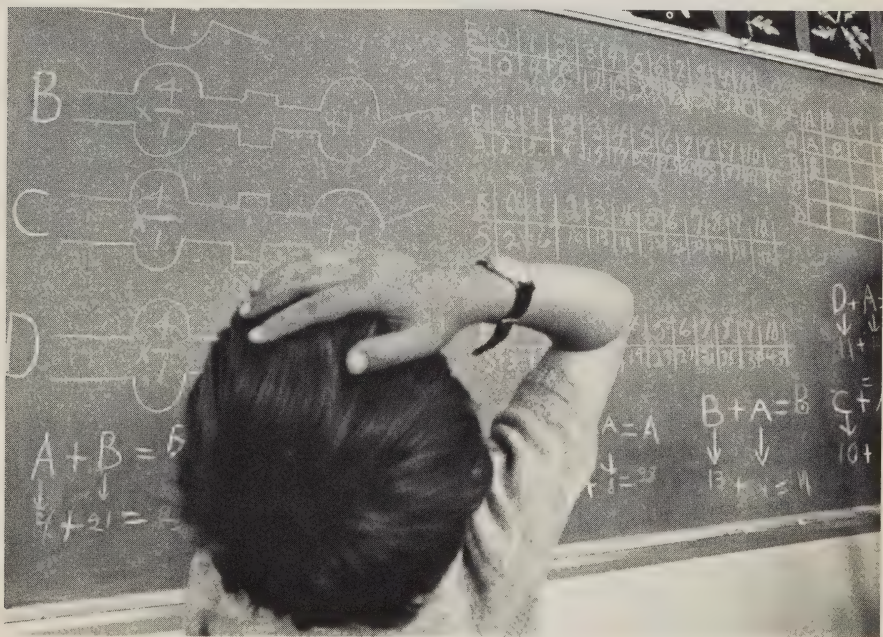
## Local Units of Administration

In all provinces, school laws provide for the establishment and operation of schools by local education boards. Through the delegation of authority, education becomes a provincial-local partnership, with varying degrees of centralization.

Provincial departments delegate authority to publicly elected or appointed boards which function as corporations under the school acts and regulations. These boards establish and maintain schools, select qualified teachers, prepare a budget for the annual meeting of rate-payers, and present the approved budget to the municipal authorities. In recent years there has been a trend in rural and adjoining town areas to amalgamate boards into larger units of administration, particularly for secondary schools.

## Teachers

Candidates for elementary teacher certificates in all provinces must have a minimum of high school graduation and at least one year of professional training in a university faculty of education or in a teachers' college. The training usually consists of professional and academic courses, and some practice teaching. Secondary school teachers are generally university graduates who have taken an additional year's study in the field of education, or whose undergraduate program included a year or more in that discipline.



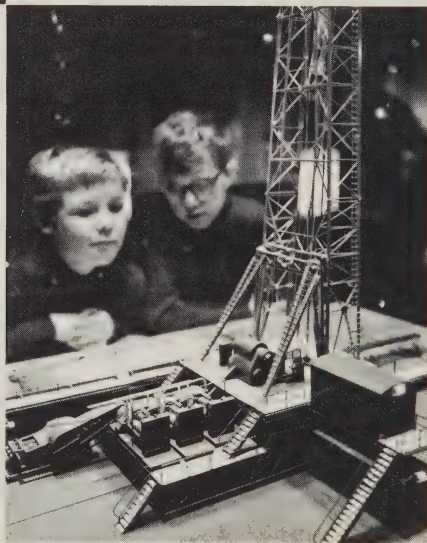


At the High Park School for Outdoor Education in Toronto, Ont., pupils examine live specimens.



At the Roussin high school in Montreal other pupils are engrossed in studying taxidermy.

Ontario's Centennial project was the Ontario Science Centre, a delight for both children and adults.



The trend is for universities to assume the responsibility for training elementary as well as secondary school teachers. Teachers' colleges apart from the universities now exist in four provinces only.

In the eight provinces for which data are available, about 11 per cent of the teachers in elementary schools and 74 per cent of those in secondary schools hold university degrees.

## School Organization

Kindergartens are a part of the public elementary school system in most large urban centres, some are included in private schools, and many are privately operated as individual institutions. Most kindergartens accept children at age five, but a growing number are accepting them at age four. There are some nursery schools for children from three to five years of age, mainly privately operated.

The majority of elementary and secondary pupils in Canada are in public schools. Less than 4 per cent attend private schools. Each September, most six-year-old Canadian children enter an eight-grade elementary school. Nearly 90 per cent of 14 year-olds enter a four- or five-year secondary school. About 13 per cent of all children entering school go on to college or university upon graduation from secondary school, and more than half of these pursue a three- or four-year program leading to a first bachelor's degree in arts or science. The remainder enrol in various professional programs such as commerce, education, engineering, law, medicine, and agriculture.

The 8-4 plan leading from the first grade to university has been modified from time to time in all provinces, and there are a number of variants to be found. For example, in some provinces one or even two kindergarten years have been added at the beginning of the system. In others, an extra year has been added to high school, providing five rather than four years of secondary schooling. Junior high schools have been introduced and the resulting organization has been a 6-3-3 or 6-3-4 plan. A fairly recent innovation has been the establishment of junior colleges in which the last one or two years of high school and the first one or two years of college are given. Some of these institutions offer vocational as well as academic programs.

Historically, the secondary school was predominantly academic, preparing its students for entry into university. Until recent years vocational schools were limited almost entirely to the larger cities. Today, besides commercial and vocational high schools, there are increasing numbers of composite and regional high schools that provide courses in home economics, agriculture, shopwork, and commercial subjects as well as the regular academic courses. The number of subjects offered and the options available provide a wide choice for pupils with different abilities and aims. Considerable emphasis has been placed on music, art, physical education, guidance and group activities, but not at the expense of the basic subjects which provide a general foundation to education.

The education of exceptional children is not neglected. In many cities there are classes for the hard-of-hearing, partially blind, other physically and mentally handicapped, as well as special programs for highly gifted students.





Children with impaired hearing attend special classes in this school in North Vancouver, B.C.

## Vocational and Technical Education

Vocational and technical education at both the secondary and post-secondary levels has grown considerably in recent years. Over one hundred institutions offer courses of from one to four years with junior matriculation or the equivalent as the minimum requirements for entrance. Graduates from these schools, commonly called technicians, fall between university-trained scientific personnel and skilled labour.

Provincial trade schools and institutes of technology are operated to complement the work undertaken in vocational high schools. Some are clearly post-secondary, with courses designed to prepare highly skilled technicians; others are essentially trade schools offering six-week to two-year courses, mostly at the secondary level. These schools offer a wide range of courses, from engineering technology to stenography, and from business machine operation to cookery.

Private trade schools provide many courses, such as beauty culture or Diesel engineering; they prepare students for occupations as different as postal clerk, musician, or welder. There are more than 225 private business colleges which train typists, stenographers, bookkeepers, office machine operators, and secretaries. Most offer part-time and evening courses as well as full-time day courses, and a few offer courses by correspondence.





Young men train as miners in the Vocational and Technical School in Whitehorse, Y.T.

Nursing education is provided in post-secondary schools of nursing attached to the larger hospitals, some twenty of which are attached to universities. Advanced nursing education is available at several universities.

## Higher Education

Most students enter a university after completing 11 to 13 years of elementary and secondary schooling. After three to five years of studies, they may emerge with a bachelor's degree in arts or science, or in such professional fields as engineering, business administration, agriculture, and education. Programs in law, theology, dentistry, medicine, and some other fields are longer—with admission usually requiring part or all of a first degree course in arts or science. For those pursuing graduate studies and research, the second degree is the master's or *licence* (at least one year beyond the first degree), and the third is the doctorate, normally requiring at least two years beyond the second degree.

## Adult Education

Many opportunities are available for academic, vocational, and cultural advancement beyond the regular full-time school programs. Large numbers



Scarborough College, affiliated with the University of Toronto.

of adults return to classes in secondary schools, special schools, and post-secondary schools in order to upgrade and advance their education. Programs to accommodate such adults are operated by local school boards, provincial schools and institutes, universities, and voluntary and private organizations at the national, provincial, and local levels.

A number of public and private institutions and organizations sponsor informal public lectures, film showings, guided tours, musical and dramatic performances, and similar educational activities for adults. Those who conduct these activities gain training through workshops, conferences, and residential adult education, as well as through formal studies.

## Financing Canadian Education

The percentage of Canada's gross national product directed to education rose from 1.5 in 1944 to an estimated 9.0 in 1969, twenty-five years later. The federal government makes grants towards provincial trade and technical schooling, university education, and for a variety of manpower programs. The provincial governments provide local school districts with either flat or incentive grants and special grants. In recent times, several provinces have adopted foundation programs to guarantee minimum levels of service. A school district may levy taxes to provide additional services.



In keeping with the provisions of the British North America Act, the cost of basic education for children of school age is borne by provincial, municipal, and local administrations. The federal government contributes financially towards some vocational training in high schools, much of the post-secondary vocational training, and a substantial share of higher education.

The federal government pays all costs for the education of Indians and Eskimos, members of the armed forces and their children, and some dependent children of the war dead and of veterans.

## Some Regional Characteristics of the School Systems

The provinces, although independent in educational administration, may be grouped regionally for a better appreciation of their systems.

**The Atlantic Provinces** (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick) are working towards a common organization which will eliminate "grade" promotion in favour of "subject" promotion using a "credit" system. A high school student will carry 5 or 6 subjects a year and build up a minimum number of credits, say 15, in order to be eligible for graduation.

**The Central Provinces** (Quebec and Ontario) contain almost two thirds of the population of Canada. Both have undergone rapid changes in their educational systems during the 1960's. In *Quebec* the entire system has been reorganized; it now resembles those in the rest of Canada. Schools have traditionally been organized along denominational lines, and the system

The junior college (or CEGEP) at Chicoutimi has the distinction of being one of the few colleges in North America that graduates civil pilots.

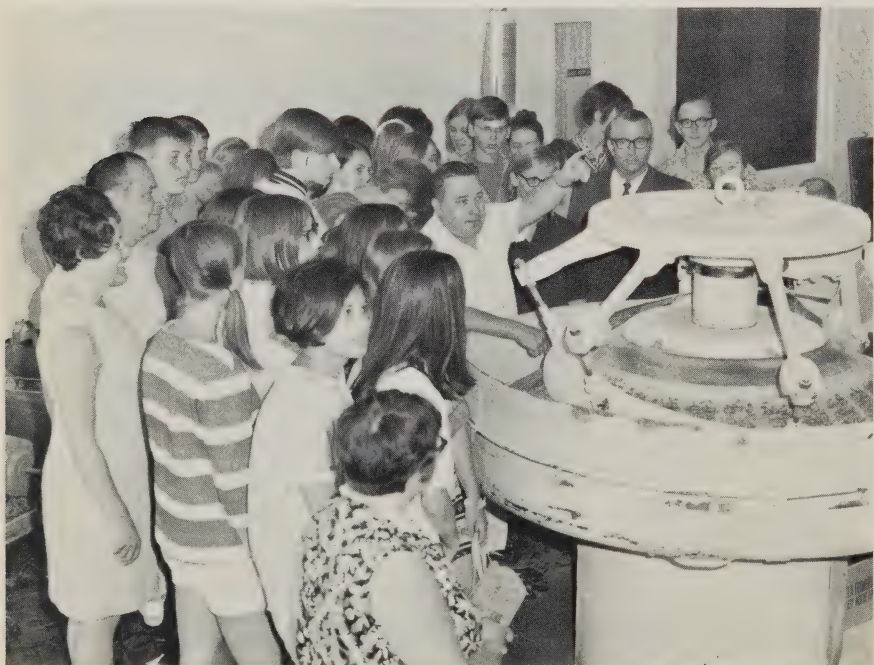






For 71 years Frontier College has been sending university students to bush camps, native settlements, and isolated communities to teach adults who lack basic skills in reading and writing.

In 1970 almost 2,900 students participated in an exchange of visits between French- and English-speaking students, sponsored by the Canadian Council of Christians and Jews, with financial assistance from the federal government.



provides for instruction in French and in English, with French being the language of instruction in the great majority of schools. At the end of the 1960's in Quebec, new colleges of general and vocational education (abbreviated to CEGEP), began to offer an extra two or three years of technical and academic education before students went to work or to the university. There will be more than 30 CEGEP's by 1970-71. *Ontario* has a 13-grade system with provision also for kindergartens and nursery schools. Its secondary-school program provides for flexible schedule patterns, which give students greater freedom to choose from an expanding range of subjects and may even provide students with individual time-tables. *Ontario* is unique among the provinces in having a Department of University Affairs apart from its provincial Department of Education.

**The Prairie Provinces** (*Manitoba*, *Saskatchewan*, and *Alberta*) continue to press for common approaches and common textbooks in the core school subjects. In *Manitoba*, local trustee boards are authorized to administer pre-school, primary, and secondary programs. Technical-vocational education at the post-secondary level is the direct responsibility of the provincial Department of Youth and Education. Higher education is the independent responsibility of the three universities themselves. *Saskatchewan* has recently introduced the principle of "non-grading" into its reorganized school system: the traditional twelve elementary-secondary "grades" have been replaced by four "divisions" each consisting of a normal 3-year program; however, a bright child might complete a division in less than three years. In *Alberta* education is under constant review by its Commission on Education Planning, charged with the broad task of predicting what *Alberta* society will be like educationally, socially, and economically during the last third of the 20th century.

**British Columbia's** programs are similar to those of other provinces. Its central organization of divisions and services includes: curriculum, instruction, adult education, correspondence courses, school broadcasts, visual education, technical and vocational courses, community programs, schools for the deaf and blind, and examinations.

The **Yukon Territory** Department of Education uses the *British Columbia* curriculum and pattern of school organization. Since the *Yukon* does not have provincial status, its educational policy is controlled by a series of ordinances issued by the Commissioner of the *Yukon Territory*. Under the Commissioner, educational policy is administered by a superintendent of schools, two assistant superintendents, and three other professional officials.

In the **Northwest Territories** (the Districts of *Mackenzie*, *Franklin*, and *Keewatin*) the school system is operated by the Education Branch of the Department of Indian Affairs and Northern Development. *Alberta* education curricula, subject to increasing modifications, are prescribed. Schools are financed partly by local taxation and partly through grants-in-aid from the federal and Northwest Territorial governments. Inspection and supervisory services are provided by the Education Division.



### Enrolment by Level of Education, Canada, Selected Years

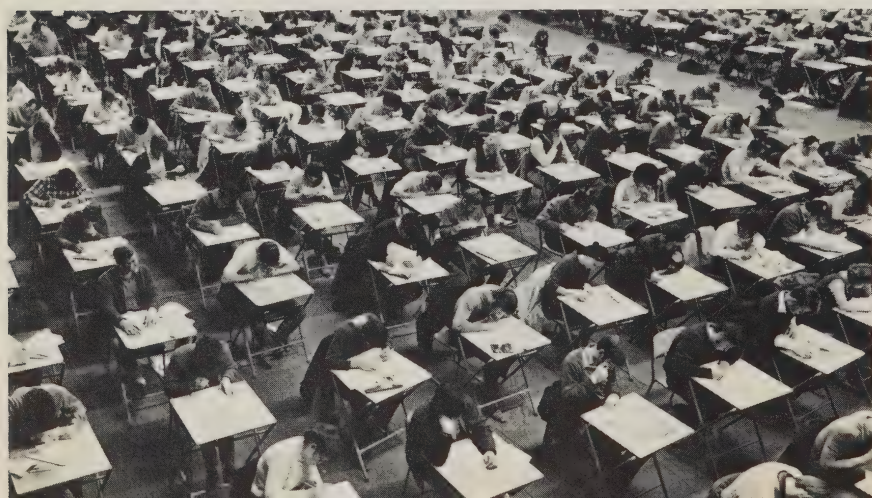
Level of Education	Grade	1960-61	1965-66	1966-67	1967-68	1968-69	1969-70 <sup>1</sup>
(In thousands)							
Kindergarten .....		145.7	229.2	254.9	291.0	323.2	350.0
Elementary <sup>2</sup> .....	1-8	3,267.3	3,684.9	3,758.6	3,836.5	3,825.5	3,847.2
Secondary .....	9-13	789.2	1,203.6	1,254.6	1,324.7	1,427.6	1,510.9
Total .....		4,202.1	5,117.8	5,268.1	5,452.2	5,576.3	5,708.0
<b>Post-secondary Full-time</b>							
Non-university <sup>3</sup> .....		32.4	63.7	71.1	88.6	129.1	166.9
University <sup>4</sup> .....		133.0	226.6	255.5	283.9	293.6	323.4
Total full-time .....		165.3	290.2	326.6	372.4	422.6	490.3
<b>Grand total</b> .....		<b>4,367.4</b>	<b>5,408.0</b>	<b>5,594.7</b>	<b>5,824.6</b>	<b>5,999.9</b>	<b>6,198.3</b>
<b>Part-time</b>							
University .....		31.2	73.9	85.8	99.0	104.1	117.5

### Percentage of Relevant Age Groups

	Age						
Kindergarten .....	5	34.5	49.6	54.3	63.0	69.3	75.4
Elementary .....	6-13	106.7	107.0	106.2	106.1	104.6	104.0
Secondary .....	14-17	66.5	80.2	84.0	86.2	89.1	91.1
Total .....	5-17	89.9	94.7	95.8	97.1	97.3	98.0
<b>Post-secondary Full-time</b>							
Non-university .....	18-21	3.3	5.1	5.3	6.2	8.7	11.0
University .....	18-24	7.9	11.1	11.7	12.2	12.1	12.7
Total full-time .....	18-24	9.8	14.2	14.9	16.1	17.4	19.3
<b>Grand total</b> .....	<b>5-24</b>	<b>68.7</b>	<b>72.6</b>	<b>72.7</b>	<b>73.4</b>	<b>73.5</b>	<b>74.1</b>
<b>Part-time</b>							
University .....	18-24	1.8	3.6	3.9	4.3	4.3	4.6

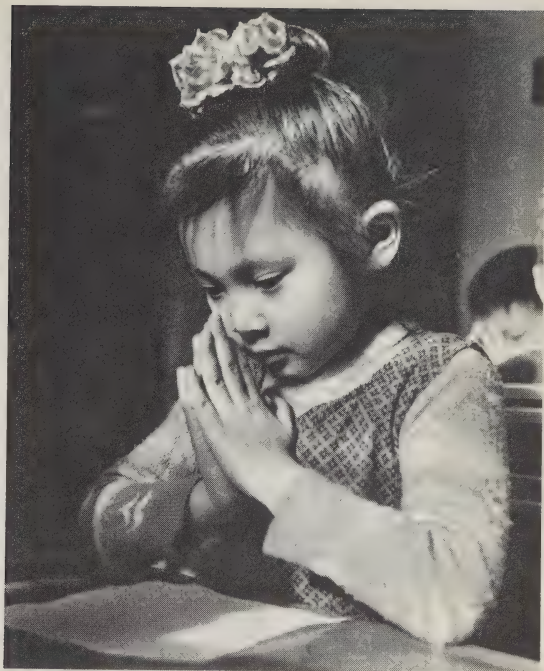
### Number of Teachers by Level of Education

Elementary and Secondary	162,124	219,042	229,255	242,535	250,100 <sup>1</sup>	258,273 <sup>1</sup>
Non-university <sup>1,3</sup> .....	2,170	4,920	5,600	6,960	10,350	13,700
University <sup>1,4</sup> .....	11,472	17,371	19,295	21,478	22,775	23,596
<b>Total</b> .....	<b>175,766</b>	<b>241,333</b>	<b>254,150</b>	<b>270,973</b>	<b>283,225</b>	<b>295,569</b>

<sup>1</sup> Estimated.<sup>2</sup> Excludes kindergarten.<sup>3</sup> Excludes teachers' college.<sup>4</sup> Includes teachers' college.



A little girl says her prayers at the Chinese school, in Montreal.



## Religion

The religious freedom that is a part of the Canadian way of life was formally guaranteed in the Canadian Bill of Rights in 1960. In addition, federal and provincial laws have been passed to eliminate discrimination because of religion or race.

Most Canadians are Christians. Adherence to various denominations — according to the 1961 census — was: Roman Catholic, 8,342,826; United Church of Canada (a union of Methodist, Congregationalist, and Presbyterian), 3,664,008; Anglican, 2,409,068; Presbyterian, 818,558; Lutheran, 662,744; Baptist, 593,553; Jewish, 254,368; and Greek Orthodox, 239,766. Other faiths with less than 200,000 members include Ukrainian (Greek) Catholic; Mennonite; Pentecostal; Salvation Army; Jehovah's Witnesses; Christian Reformed; Mormon; Evangelical United Brethren; Adventist; Churches of Christ, Disciples; Christian Science; Christian and Missionary Alliance; Brethren in Christ; Unitarian; Free Methodist Church of Canada; Church of the Nazarene; Doukhobor; Plymouth Brethren; Buddhist; Confucian; and some others.

## The Arts

The presence of a fresh decade for the arts in Canada was permeated by youth, involvement, and by less confinement of experiment. It was the presence of the future — a quality of genesis rather than renewal — which stimulated older, more formal artistic traditions.

The 1970 season was distinguished by the opening of a new arts centre in Toronto and the final construction stages of a concert hall for Quebec City. Meanwhile, the first season of the National Arts Centre in Ottawa flourished with repeated successes, drawing large crowds.

Following the completion of the St. Lawrence Centre for the Arts, a belated centennial project, Toronto has a new 831-seat theatre and a unique 483-seat town hall, a centre for community activity. Guided by the belief that theatre must take contemporary forms for a new audience in order to prosper in the age of mass media, the Centre held promise of new opportunities for Canadian playwrights and players.

The financing of the arts in Canada is a public and private venture. Federal government support is provided through the Canada Council established in 1957 to assist performing individual artists, performing arts companies, art galleries, and other art enterprises. The total Canada Council arts subsidy for 1968-69 was \$8,766,000. Nearly half this amount, \$4,505,000 represented assistance to 45 performing arts organizations. Grants to these organizations alone from other levels of government were \$2,974,000, along with \$2,109,000 in private donations.

In addition, the federal government gives direct assistance to other cultural agencies such as the Canadian Broadcasting Corporation, the National Film Board, the National Museums of Canada, the Canadian Film Development Corporation, and the National Arts Centre.

## Theatre

Three world premières of works by Canadian authors were part of the opening program of the St. Lawrence Centre, Toronto, in February. There was also a new English version of *Faust* by one of the world's foremost Goethe scholars, Dr. Barker Fairley. Adapted by Peter Raby, Part One covered the same ground as Gounod's opera, and Part Two was a psychedelic trip through a surrealist hell. The theatre's premier production was *Man Inc.* written and directed by Jacques Languirand. It was billed as the most complex multi-media production attempted in Canada. Living screen effects were provided by the National Film Board, an unprecedented collaboration. The second presentation was Jack Gray's comedy, *Striker Schneiderman*, directed by Leon Major. It is based on the 1919 Winnipeg general strike. The third production, Boris Vian's *The Knacker's ABC*, directed by Ted Follows, uses the image of a horse slaughterhouse to make savage fun of war.

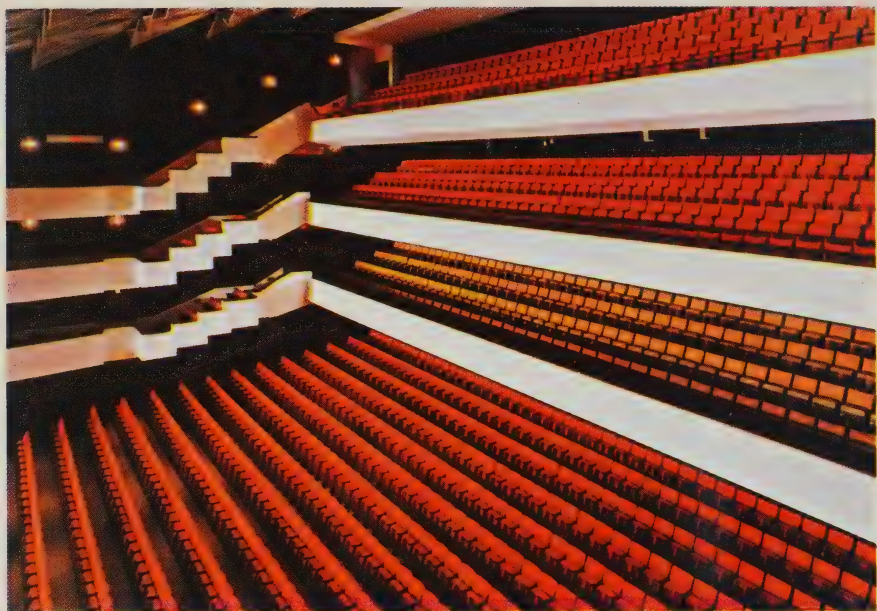
In Vancouver, the new director of the Playhouse Theatre Company nego-



The St. Lawrence Centre for the Arts, Toronto, Ont., staged *Faust* as an opening attraction.







The new Arts Centre in Regina, Sask.

tiated a merger with Holiday Theatre, the long established children's theatre. This means that theatre for all age groups is now under one organization. The Playhouse's most ambitious 1969-70 production was *The Royal Hunt of The Sun*. The Studio Theatre continued to develop "risk" plays for more limited audiences.

In the Prairie Provinces, some of the most successful regional theatres in North America set more triumphant records. Edmonton's Citadel Theatre, guided by Sean Mulcahy, continued to flourish. Theatre Calgary embarked upon its second season with an original musical depicting the city's history, *You Two Stay Here, The Rest Come with Me*, written by artistic director, Christopher Newton, with music by Allan Rae. The Manitoba Theatre Centre, now under the direction of Kurt Reis, performed in the Jubilee Auditorium while it waited to move into a new permanent home in late 1970. The MTC maintains a theatre school and continues to produce experimental studio productions.

In Toronto, the opening of the St. Lawrence Centre provided a new base for Canadian works to balance the imported entertainment presented in that city's two other major professional theatres. Smaller professional companies perform in theatres which are to be found in places such as church annexes, halls, and warehouses. Such organizations, Toronto Workshop Productions,

Faith Ward, as Dorothy, and Jack Medley, as John, helped make the comedy *Any Wednesday* popular at the Neptune Theatre, Halifax, N.S.



The Théâtre du Rideau Vert staged *Hedda Gabler*, starring Yvette Brind'Amour and Gilles Pelletier.



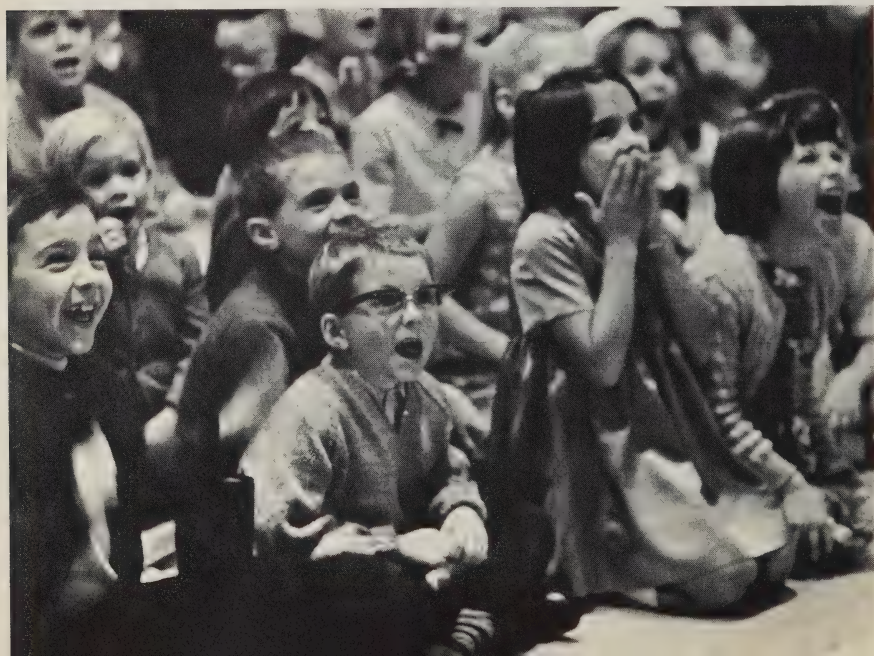
Theatre Passe Muraille, and The Global Village, concentrated on the development of young writers and avant-garde productions.

The National Arts Centre in Ottawa has the Stratford Company as its visiting English-language company, in residence during the winter months. Its season included Brendan Behan's *The Hostage*, Boris Vian's *The Empire Builders*, and three Mrozek plays. French presentations were provided by Le Théâtre du Capricorne which ended its 1969-70 season with Beckett's *Waiting for Godot*. The NAC is actively developing its program of school tours in the capital region.

Established French-language theatre in Montreal was centred around Le Théâtre du Nouveau Monde, under Jean-Louis Roux, and Le Théâtre du Rideau Vert, directed by Yvette Brind'Amour. The basic TNM company plays at the Port Royal Theatre of the Place des Arts and this season featured a new work, *Le marquis qui perdit*, written by Réjean Ducharme and directed by André Brassard. The TNM repertoire ranged from a French version of *Hamlet* to *Lysistrata*. The Rideau Vert, which is in its twenty-second season, represented Canadian theatre organizations at the first Premio Roma in Italy with Henrik Ibsen's *Hedda Gabler*. Its repertoire includes the works of classical writers as well as contemporary French Canadians. New Canadian plays also dominate the new policy of Gratien Gélinas' Comédie Canadienne.

At L'Atelier de la Comédie, youthful players presented Robert Gurik's *A coeur ouvert*. Gurik's and other playwrights' dramatic works were also performed by members of the Centre du Théâtre d'Aujourd'hui. Another company, Théâtre de Quat' Sous, oscillated between avant-garde works by such very young writers as Michel Tremblay and mod musicals.

In the Maritime Provinces, there are two principal theatre companies, the very succesful Neptune Theatre in Halifax and the new Theatre New Brunswick in Fredericton.







During the Stratford Festival's 18th annual season, *Vatzlav* featured Arnold Soboloff and Joseph Rutten.

Ionesco's new play *Jeux de Massacre* is one of the major productions of the Théâtre du Nouveau Monde in its 1970-71 season.





*The School for Scandal* was another of the Stratford Festival's attractions in 1970.

## Festivals

The Stratford Festival, which has established itself as one of the foremost classical theatres in the English-speaking world, continued to broaden its scope with contemporary drama as well as other immensely popular activities such as music and art exhibitions. The 1970 season offered Shakespeare's *Cymbeline*, directed by Jean Gascon and designed by Tanya Moiseiwitsch, and *The Merchant of Venice*. James Donald, the British actor, starred in Sheridan's *School for Scandal*. Irene Worth returned to Stratford to play the title role in Ibsen's *Hedda Gabler*. The Avon Theatre featured three premières, Arrabal's *The Architect and the Emperor of Assyria*, Wesker's *The Friends*, and Mrozek's *Vatzlav*. The concert series highlighted Gordon Lightfoot, the National Youth Orchestra, and such international artists as Hans Richter-Haaser and Lili Kraus.

Another celebrated summer festival is the Shaw Festival at historic Niagara-on-the-Lake. It was founded in 1964 to perpetuate the works of Shaw and recently, those of Shaw's contemporaries. The 1970 program included *Candida* and *Forty Years On*. The festival director is Paxton Whitehead. The Charlottetown Festival continued its revival of *Anne of Green Gables* which was also performed at Expo 70, in Osaka. Crowds were also drawn to a re-written version of *Turvey*, by Don Harron and Norman Campbell, and *Jane Eyre*, the festival's first presentation of a non-Canadian work. During





Young people from across Canada join together to play in the National Youth Orchestra at festivals such as Stratford.

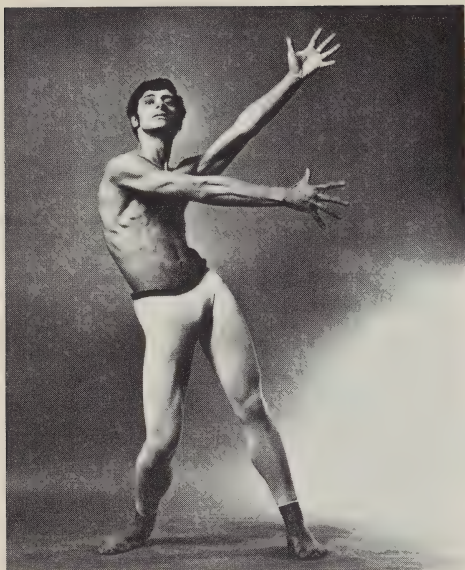
the winter months, Charlottetown now has a resident theatre company directed by Burton Lancaster.

## Dance

Ballet is one of the youngest and most prestigious of the arts in Canada. Three professional companies have achieved international recognition, and equally important, they have performed in remote parts of the country for audiences which may never before have seen productions of this kind.

The National Ballet of Canada, founded in 1951 by Celia Franca, performed at Expo 70 in Osaka. One of the company's major domestic presentations was *Gisèle*. Two new suites, *Medea* and *Mirror Walkers*, have been added to the repertoire. Critics continue to acclaim the dynamic Royal Winnipeg Ballet, Canada's oldest ballet company, formed in 1939. It provided a highlight for the Manitoba Centennial celebration at the National Arts Centre with Brian MacDonald's new *5 over 13*. The music was written by Harry Freedman. Early in 1970 the Company's Director, Arnold Spohr, received the Canada Council's \$15,000 Molson Prize. Les Grands Ballets Canadiens of Montreal, founded by Mme. Ludmilla Chiriaeff, presented Carl Orff's *Trionfi* at the Place des Arts. During their 1970 season, they performed Stravinsky's *A Symphony of Psalms* at St. Joseph's Oratory in Montreal in what was hailed as a successful experiment in bringing ballet to a new audience.





Alexander Belin took the leading role in a dancing version of the rock opera *Tommy* presented by Les Grands Ballets Canadiens in the Place des Arts, Montreal, Que.

Three aspiring ballerinas danced *The Sisters* at the National Ballet School's 1970 performances.



## Visual Arts

The growing influence and importance of Canadian artists can now be seen in their direct contribution to the contemporary art scene abroad. Several distinguished art journals, among them *Art International*, *Art in America*, and a special issue of *Studio International*, gave prominent and favourable recognition to Canadian work during the year.

A great number of young Canadian artists, estimated at more than 1,200, exhibited their work for the first time in galleries across the country. In addition to paying a great deal of attention to Canadian work, public galleries organized and sent important collections abroad, and also displayed numerous foreign shows. They attracted 5.2 million visits in 1969.

In Western Canada, a new public gallery was opened in Edmonton. Winnipeg is also building a new gallery which is expected to be ready in 1971. In Victoria, a major addition to the city's gallery was begun, while in Montreal, a section of the Museum of Fine Arts was redone to display the superb Vaughn-Pillow-Hosmer collection of Old Masters. Most notable among gallery acquisitions were a Degas and a Hals for the National Gallery in Ottawa and an early Picasso for the Montreal Museum of Fine Arts.

The Exhibition of Masterpieces of Indian and Eskimo Art (700 B.C. to 1930) drew great acclaim in Paris when it was shown at the Musée de l'Homme. Another important international showing was Master Drawings from the National Gallery of Canada which was displayed at the Louvre in Paris and the Uffizi Gallery in Florence. An individual achievement was the awarding of a major São Paulo Bienal prize to the Canadian Robert Murray for his welded steel sculpture.

This year marked the fiftieth anniversary of the first exhibition of the Group of Seven, a circle of Toronto painters who depicted the landscapes of Northern Canada in a vigorous and controversial way, from 1910 to 1930. To celebrate this event, a recreation of that show opened in the spring of 1970 at the Art Gallery in Toronto. The National Gallery also sponsored a retrospective of the Group's paintings.

In Ottawa, other important exhibitions during 1969-70 were the Masterpieces of Indian and Eskimo Art, Rembrandt drawings, and retrospectives by the Canadian Jack Shadbolt and Dan Flavin. Rothmans, a private corporation, sponsored a Rodin exhibition which is being shown across the country.

The Vancouver Art Gallery presented an important exhibition of conceptual art entitled 955000. It was in Vancouver too that the one-man show of Yves Gaucher's paintings opened before moving on to Edmonton and then to the Whitechapel Gallery in London, England.

A historical collection of the early pre-abstract work of Mondrian and the Hague School was organized in Regina and later travelled to Edmonton and Montreal. A number of Canadian and American painters, including Les Levine, Iain Baxter, and Denis Oppenheim, were invited to develop an environmental show at the new Edmonton gallery. That gallery also organized an expedition of artists to the Arctic Circle.

Major events in Toronto were the Canadian Michael Snow's Retrospective;

the Bauhaus exhibition from Europe; and *The Sacred and Profane in Symbolist Art*, a study of 19th- and early 20th-century painters from Italy. The Montreal Museum of Fine Arts featured a number of important shows, including the work of Jean Dubuffet of France.

The first public showing of the Canada Council's collection of contemporary Canadian art, accumulated in recent years, opened in Charlottetown in mid-1969 and moved on to showings at major galleries across Canada. In addition, the Council assisted the making of high-quality reproductions of the work of twenty-three leading Canadian painters.

The growth of non-commercial film-making was highlighted by the creation in early 1970 of the Canadian Film Cooperative, which set up offices in Montreal, Toronto, and Vancouver to store, book, and care for films. Member groups of the Cooperative are the Intermedia Film Co-op in Vancouver, the Canadian Film-makers Distribution Centre in Toronto, and the *Coopérative des Cinéastes Indépendants* in Montreal. The major aim of the Cooperative is to provide non-commercial Canadian film-makers with reliable and effective distribution for their films.

## Music

The most conspicuous musical event of 1969 was the birth of the National Arts Centre Orchestra. Small by traditional standards, the forty-five-piece classical orchestra opened to wide acclaim. It performed at the NAC, accompanied visiting artists, and initiated a touring program. Its conductor is the Canadian Mario Bernardi who is also an accomplished pianist. Best known for his work in opera, Bernardi was musical director of the Sadler Wells Opera Company in London before returning to Canada.

In the fall of 1970, *L'Orchestre Symphonique de Québec* and *Le Théâtre Lyrique du Québec* were scheduled to move into the newly-completed *Le Grand Théâtre* in Quebec City. Further east, the fledgling Atlantic Symphony Orchestra embarked on its third touring season with conductor Klaro Mizerit.

The Montreal Symphony's popular concerts at the *Place des Arts* during the summer months had an unprecedented success. The formula was to provide a double program, presenting regular symphonic selections followed by Québec chansonniers or chanteuses. The MSO, which has been enlarged and reorganized by conductor Franz Paul Decker, was an official guest at Expo 70 with Maureen Forrester as one of the soloists. Karel Ancerl, formerly the conductor of the Czech Philharmonic Orchestra, has joined the Toronto Symphony. It made a highly successful tour of major United States concert halls and of Japan in 1969.

The National Youth Orchestra, which was formed in 1960 and has been acclaimed across Canada and internationally, has broadened its base with a second orchestra for chamber music. The new thirty-piece company will also serve as a training orchestra. During the summer of 1970, Canada was host for the founding meeting of an international youth orchestra. Delegates from around the world attended the session at the *Jeunesses Musicales* camp at Mont Orford, Que.

The following for chamber music among Canadians is still small, but



## THE ARTS

Summer students at the Banff School of Fine Arts can enjoy scenery as magnificent as the music they play.



devoted. The Orford Quartet drew international praise when it toured Europe, South America, and the United States. The McGill Chamber Orchestra of Alexander Brott celebrated its thirtieth anniversary with concerts before capacity audiences.

Also in Montreal, new Canadian and avant-garde music was performed by the young, successful Société de Musique Contemporaine du Québec, led by Serge Garant.

Choral music and choral societies are to be found in countless Canadian cities and towns. The Festival Singers of Canada are still thought to be the only professional group of this type in North America. Formed at Stratford by Elmer Iseler, the choir was enthusiastically received when it made its New York début in the fall of 1969. Mr. Iseler also conducts the Toronto Mendelssohn Choir, which observed its seventy-fifth anniversary in 1970.

Another important anniversary, Beethoven's bicentenary, was marked by most musical organizations throughout the country. It provided the theme for the 1970 Guelph Spring Festival which featured the North American première of the 19th-century opera, *The Village Barber* by J. Schenk. A separate series, devoted entirely to the work of Beethoven, was scheduled by the Toronto Symphony.

Canadian opera companies, notably the Théâtre Lyrique du Québec, the Canadian Opera Company, the Edmonton Opera Association, and the Vancouver Opera Association, launched new programs early in the year. The Canadian Opera Company travelled extensively in the far northern regions with an English-language version of *The Barber of Seville*.

Les Jeunesses Musicales du Canada has more than doubled its touring arrangements in less than a decade, visiting approximately 190 centres. This organization provides opportunities and audiences for young Canadian instrumentalists.



The term "music" is being broadened to include sounds produced electronically. Here a graduate class in musical composition at the University of Toronto discusses the subject.

Summer music festivals were again held at Mont Orford, Que., and at Stratford, Ont. The Canadian Broadcasting Corporation which has always been closely identified with musical development, sponsors the phenomenally successful outdoor concert festival in the Gatineau Park north of Ottawa. The 1969 season, which attracted an estimated 15,000 people to each performance, included such stars as Joan Baez, Gordon Lightfoot, Robert Charlebois, and Jean-Pierre Ferland.

During the summer of 1970, Montreal was the setting for an important international voice competition, Le Concours International de Montréal. The host organization was the International Institute of Music of Canada.

## Writing

Until recently the literary worlds of English and French Canada have largely remained distinct and separate from each other. Now however there is evidence of a real awareness in both French and English book circles of

what is happening in the other language, thanks to the growing number of translations and "bicultural" literary criticism.

The number of French-Canadian works translated into English has considerably increased, and the unilingual reader in Lethbridge can now dip into the novels of young writers such as Hubert Aquin, Marie-Claire Blais, and Diane Giguère. Add these to paperback reprints of earlier translations of Ringuet, Gabrielle Roy, and Yves Thériault, among others, and there is a substantial collection of works now available to the English-speaking reader.

Jean Paré's translations of two works by Marshall McLuhan show in brilliant fashion that the literary exchange works both ways. In addition there have been translations into French of works by the Toronto critic Northrop Frye and the two Montreal novelists, Hugh MacLennan and Mordecai Richler. The Montreal literary magazine *Liberté* created another precedent by devoting the greater part of a special issue to recent English Canadian fiction in translation.

A bicultural experiment was undertaken by the small Toronto publisher, House of Anansi, directed by the poet Dennis Lee. Among a series of five novels published in paperback for English Canadian readers was *A perte de temps*, by the young Montreal novelist Pierre Gravel. With the French text was a glossary of difficult words and expressions.

From the little Quebec town of North Hatley came *Ellipse*, a new magazine which presents poems in the original English or French, with a translation on the facing page. Edited by the poet Doug Jones and his wife Sheila it received favourable critical reviews both for the choice of poems and the quality of translations.

At the same time Canadian publishers in both languages are attempting to work out means of closer co-operation. For some time now they have worked together in preparing Canada's displays at international gatherings such as the Frankfurt Book Fair, and late in November representatives of the French Canadian publishers organization, Le Conseil Supérieur du Livre, made a trip to Toronto to discuss common problems with the Canadian Book Publishers' Council.

Essential to these exchanges is the surge of interest in the French and English press in criticism and news of books in the other language. Notable in this respect are the *Toronto Globe and Mail*, the *Montreal Star*, and *Le Devoir* of Montreal. Literary magazines such as *Liberté*, *The Tamarack Review*, and *Canadian Literature* have published critical comments on both literatures for some time.

In 1969, as usual, books in both languages received Governor General's Awards for Literature. The awards went to George Bowering for his two books of poems, *The Gangs of Kosmos* and *Rocky Mountain Foot*; Robert Kroetsch for his novel, *The Studhorse Man*; Gwendolyn MacEwen for her poems, *The Shadow-Maker*; Michel Brunet for his historical work, *Les Canadiens après la conquête*; Louise Maheux-Forcier for her novel, *Une forêt pour Zoé*; and Jean-Guy Pilon for his poems, *Comme eau retenue*. Pilon also received two international distinctions for his poetry: the Prix Louise Labé and the Prix France-Canada.



1970 was an especially good year for the well-known Toronto novelist, Morley Callaghan. Not only did he finish the manuscript of a new novel, *Thumbs Down on Julien Jones*, but he won the Canada Council's \$15,000 Molson Prize and a \$50,000 prize from the Royal Bank of Canada.

Other distinctions were won by the Montreal poet Alain Grandbois, who was awarded Quebec's 1969 Prix David, and the Quebec sociologist Fernand Dumont, who received the City of Montreal's literary prize for 1969.

Two interesting trends brought a large number of Canadian writers to university campuses during 1969 and 1970. Moving away from the traditional coffee houses, poets read their works at universities across Canada. In addition a number of Canadian novelists and poets were appointed writers-in-residence at various universities, among them the poet George Bowering and the novelist Modcai Richler at Sir George Williams, Montreal; the poet Alden Nowlan at New Brunswick; the novelists Jack Ludwig and Margaret Laurence at the University of Toronto; and the novelist W. O. Mitchell at Calgary. The writer-in-residence is not a member of the university's teaching staff, but carries on his own writing and makes himself available for consultations with students and faculty.

The major literary meeting of the year brought poets and critics from across Canada to a symposium at the University of Alberta. Reflecting the heightened public awareness of Canadian literature, the event received an unprecedented amount of publicity in the news media.

## The National Gallery

The National Gallery of Canada, which for fifty-five years from 1913 to 1968 had its own corporate identity and its own Board of Trustees, became part of the National Museums of Canada on April 1, 1968. Many of the responsibilities of the former Board now fall upon a Visiting Committee appointed by the Board of Trustees of the National Museums. The Gallery remains under the department of the Secretary of State.

The core of the Gallery's activities is its collection which had its beginnings with the co-founding of the Gallery and the Royal Canadian Academy of Arts by the Marquis of Lorne in 1880. This collection, which now has over 16,000 works, has five principal collections: a distinguished collection of European art (800 works), a comprehensive collection of Canadian painting and sculpture (nearly 2,000 works), the largest collection of prints and drawings in Canada (over 6,000 works), a collection of contemporary art, and a collection of the art of the two World Wars (6,000 works).

In 1969 the most important additions to the collection were of traditional European art. As a consequence of the Jacob Jordaens exhibition in 1968 a major work by this 17th-century Flemish painter, *As the Old Sing, So the Young Twitter*, was purchased for the Gallery in March 1968. It was subsequently sent on tour to thirteen museums in Canada from Victoria, B.C., to St. John's, Newfoundland. In addition a portrait of an unknown man by the Dutch 17th-century painter, Frans Hals, was bought, the first by this artist

to enter the collection. Another portrait, this time of a woman by the French 19th-century painter, Edgar Degas, was also acquired.

Part of the increasingly active international program of the Gallery was the consequence of the quality of one of its collections, the drawings, largely acquired on the advice of Miss Kathleen Fenwick who was Curator of Prints and Drawings for forty years. A selection from this collection was shown at Colnaghi in London from July 3 to August 1, 1969, at the Uffizi in Florence from September 15 to October 26 and at the Louvre in Paris from November 29 to February 2, 1970. It was the first time that a group of drawings from another museum was shown at the Louvre.

The Canadian collection has not been ignored. It traditionally receives more gifts than other parts of the collection. In 1969, for example, it was given a large oil by Carl Schaeffer (1903- ) by Floyd Chalmers of Toronto and a drawing by the late F. H. Varley (1881-1969) by his sister who lives in Sheffield, England. In addition certain purchases strengthen the historic continuity of the collection; in 1969 the acquisition of two paintings and one drawing by Ozias Leduc (1864-1955) was important.

The Gallery continued to be involved in contemporary art. As part of its

A. Y. Jackson's *Frozen Lake, Early Spring, Algonquin Park* in the National Gallery's collection.







A print by the well-known Eskimo sculptor Kenojouak, of Cape Dorset, N.W.T.

concern for the acknowledgement of Canadian art abroad it showed the work of Robert Murray (1936- ) of Toronto and New York, Greg Curnoe (1936- ) of London, Ont., and Iain Baxter (1936- ) of Vancouver, B.C., at the São Paulo Bienal; Robert Murray won one of the principal prizes. At Bratislava it exhibited the construction of the late Dan Patterson (1884-1968) of St. Thomas, Ont., which won second prize. In Paris in June 1969 it not only showed the work of Les Levine (1936- ) at the Biennale des Jeunes but held a small exhibition at the Galerie de France called *Canada: Tendances Actuelles*. In addition it acquired works by Canadian artists such as Michael Snow (1929- ), Claude Tousignant (1932- ) and Guido Molinari (1933- ).

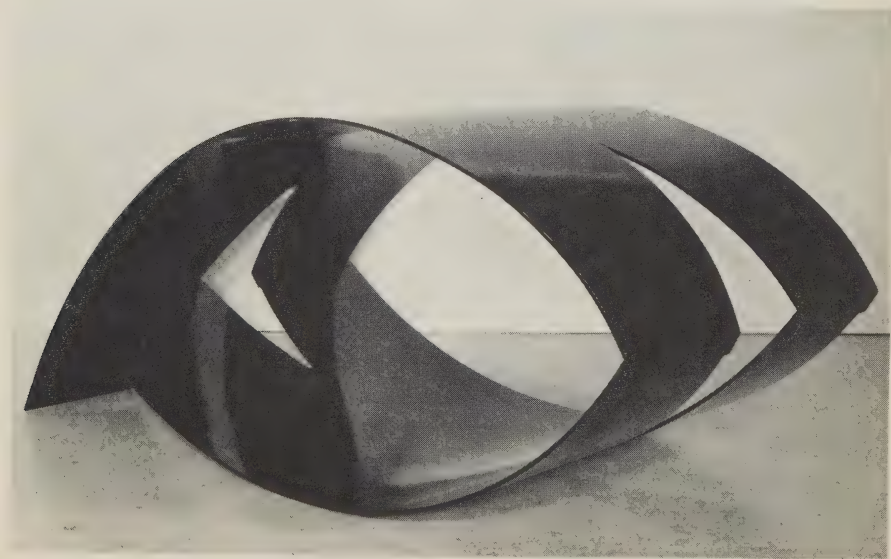
The Gallery's interest in contemporary art outside Canada was best expressed in 1969 in its exhibition of fluorescent-light sculpture by the American Dan Flavin (1933- ) which went on from Ottawa to Vancouver and finally to the Jewish Museum in New York.

For the national or extension program, which since 1916 has been sending exhibitions throughout Canada, it has been a period of re-evaluation and experimentation. A workshop on museum methods at Jonquière, Que., proved particularly successful. The largest exhibition circulated was of the work of the Montreal painter Goodridge Roberts (1904- ).





Recent acquisitions of the National Gallery include Piet Mondrian's *Composition with a Blue Square* and Robert Murray's *Breaker*, which was awarded a prize at the São Paulo Biennial.



# Recreation

## Recreation and Tourism

Canada is today reaping the benefits of its Centennial year legacy. This legacy, which took the form of new cultural centres, sports complexes, parks, roads, hotels, and newly restored historic sites, has brought Canada to its golden age of recreation and tourism.

## Outdoor Recreation

Traditionally, Canadians have sought relaxation in the great outdoors and visitors also seek rest and recreation there. Of the millions of visitors in 1968, 36 per cent of a representative sample listed outdoor activities as their main reason for coming to Canada. Prolific fish and game areas lure more sportsmen every year as new roads and fly-in services open up new regions to outfitters' camps and lodges.

Containing literally millions of lakes and rivers and miles of ocean shoreline, Canada offers unlimited scope for water sports and recreation. Lakeside

Trout fishing in Pinkut Creek near Babine Lake, B.C.





Power boating near Huntsville, Ont.

cottage construction is on the upswing and swimming, water-skiing, pleasure boating, and skin-diving continue to increase in popularity.

Yacht, sailboat, and powerboat races and swimming regattas multiply on inland and coastal waters and there is a new interest in wilderness canoeing, sparked by the 1967 Centennial Voyageur Canoe Pageant, and the efforts of the Canadian Camping Federation volunteers who mapped the navigable canoe routes of today.

An interest in hiking has been revived with the cutting of special hikers' tracks in national and provincial parks and with the opening of Ontario's 480-mile long Bruce Trail from the Niagara Escarpment to the Bruce Peninsula.

## National Parks

Canadians and their guests from abroad are flocking to Canada's 24 national parks in far greater numbers than ever before. In the past four decades the total area of the country's national parks system has grown by only some 1,000 square miles (about  $3\frac{1}{2}$  per cent) but the annual number of visits to the parks in the same period has increased from 500,000 to 12,000,000 or 2,300 per cent.

To handle the needs of such large numbers of visitors, the National and Historic Parks Branch of the Department of Indian Affairs and Northern Development has instituted a system of land-use classes under which large areas in each park are left entirely in their wild state (but open to anyone who cares to "rough it") while urban-style development — as exemplified in Banff and Jasper — is restricted to a few small areas. Three classes of land use between these two extremes allow for various degrees of development





Many Canadians who love the northern woods and lakes favour the traditional Indian canoe as a mode of travel.

based on the capacity of each region to withstand such use without impairment. The zoning system, laid down in a provisional master plan for each park, is the subject of a series of public hearings held across Canada. However, the only real answer to the threat of over-use is to establish more national parks, and the National and Historic Parks Branch is continuing its search for more park land. Several areas have already been set aside, and negotiations with all provinces and the two territories are under way for additional parks across Canada. The goal is to establish 40 to 60 new national parks before the end of the century.

## National Historic Parks

The history of the New World is the story of exploration, settlement, and wars of colonial rivalry. In part also it is the story of how the people of Canada overcame the geography of their land. It took special individual spirit to extend an empire 4,000 miles from the St. Lawrence River to the Gulf of Mexico in the 17th century; to push north to build the preposterous Fort Prince of Wales on Hudson Bay in the 18th century; to homestead in the West in the 19th century; and to build a railway through mountains in the

20th century. Some reminders of this spirit can be seen in national historic parks located across Canada.

On the east coast rises the Fortress of Louisbourg National Historic Park, the world's most extensive historical reconstruction combining military and civil aspects of the 18th century.

In the northwest, the Klondike Gold Rush, a chapter of Canadian history still alive in the memory of some Canadians, will be recalled in the Klondike Gold Rush International Historic Park. Plans for this first international historic park were announced in December, 1969. Canadian interpretation of the mining, social, and transportation elements of the Gold Rush epic of 1898 will be focused in Dawson City, Bonanza Creek, Whitehorse, and Bennett, and on the Canadian section of the famous Chilkoot Trail, B.C. American historical development will be centred on the Skagway-Dyea area of Alaska and on the American side of the Chilkoot and White Pass Trails.

On Hudson Bay is Fort Prince of Wales National Historic Park, the most northerly fortress on the North American continent. With walls of stone nearly 17 feet high and 40 feet deep at the base, and having a perimeter of 1274 feet, the fort was built between 1733 and 1771, by men working without machinery and with but few animals in a region that has eight months of winter a year. The remains of the fort can be reached by air or boat from Churchill, Man.

The governor's bedroom in the Fortress of Louisbourg, N.S. Care has been taken to furnish Louisbourg with 18th century objects gathered in Canada and France.

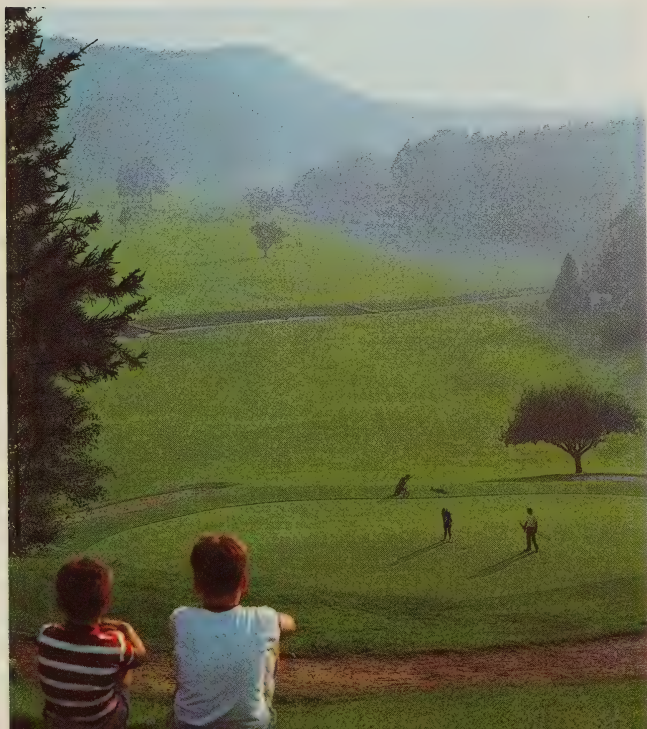




The most southerly national historic park is Fort Malden at Amherstburg, Ont. Built in 1797-99, destroyed by Americans in 1813 and rebuilt in 1819-23, it represents one of the few periods when it can be said that the border between Canada and the United States was defended.

There are over 50 national historic parks and sites in Canada. Places, persons, or events are declared of national historic importance by the Minister of Indian Affairs and Northern Development on the recommendation of the Historic Sites and Monuments Board of Canada, an advisory body of 14 distinguished historians and archivists from all the provinces. Their recommendations may result in the Department's inscribing a plaque, purchasing and restoring a historic building, establishing a major national historic park, or co-operating with provincial and municipal governments or historical societies in restoring architecturally or historically important structures. Examples of the latter are the Maillou House in Quebec City, Craigflower Manor in Victoria and the Matheson House in Perth.

Research questionnaires filled out by visitors at the border reveal that Canada's cities and their people are also a major attraction. From cosmopolitan, bilingual Montreal, to the Pacific seaport of Vancouver and stately Victoria on the West Coast; from the booming cities of the Prairies to Canada's financial and commercial headquarters, Toronto, now establishing a reputation as a swinging city; to the characteristic atmosphere of the cities and towns of the Maritimes — all have highly distinctive attractions and some 19 per cent of visitors list the appeal of the cities as their main reason for visiting this country.



One of Canada's scenic golf courses is in Fundy National Park, N.B.





Skiing is an increasingly popular sport in all regions of Canada.

## Special Events

Canada has a full calendar of year-round events with each season featuring its own special type of celebration. In late March and early April, sugaring-off parties are popular in eastern Canadian maple bushes. Spring is the time for blossom festivals, such as the ones held in Ontario's Niagara area, the Annapolis Valley in Nova Scotia, the Okanagan Valley of British Columbia, and Ottawa's Tulip Festival.

Summer brings the exhibitions, fairs, and festivals. Montreal's "Man and His World," held on the site of Expo 67, and offering the same visual scope, is now a permanent summer exhibition. Other well-known summer events include Edmonton's Klondike Days and the Calgary Stampede and Exhibition, both in Alberta, the Vancouver Festival of the Sea, in British Columbia, and the Nova Scotia Fisheries Exhibition and Fishermen's Reunion, in Lunenburg.

Winter gives rise to a series of carnivals across the country. Most feature winter sports competitions — skiing, curling, dog-sledding, snowmobiling, hockey, and ice-fishing. The most popular carnivals are the Quebec Winter Carnival, at Quebec City, the Festival des Neiges at Ste-Agathe-des-Monts, Que., the Muk-Luk Mardi Gras in Edmonton, Alta., and the Vernon Winter Carnival in British Columbia.

## Sports

Probably no other nation boasts such a diversity of sports as Canada. This is partially due to this country's receptiveness to both American and British influences. Then too, the European settlers who flocked here after the Second World War brought their sporting traditions with them.

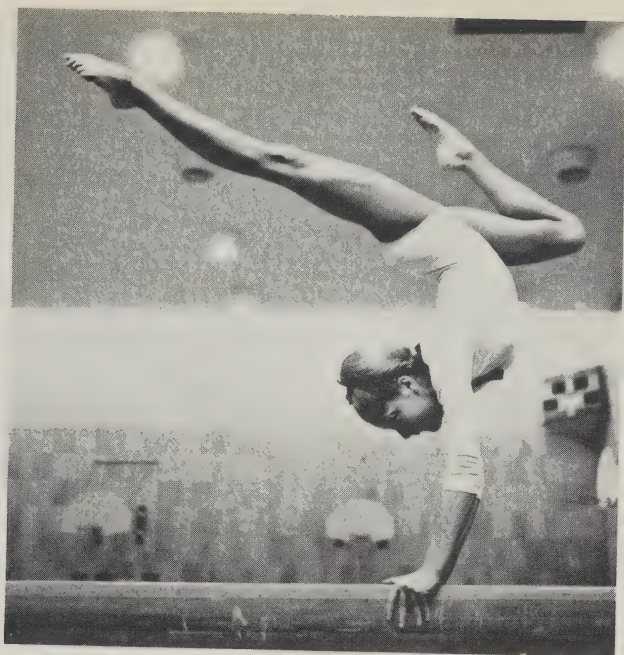
1969 was an eventful year in amateur sport. It was highlighted by the First Canada Summer Games, held from August 15 to 25, in Halifax-Dartmouth, N.S. where some 2,700 athletes from all the provinces and the territories competed in 15 different sports. The games were officially opened by Prime Minister Pierre Elliott Trudeau and closed by Governor General Roland Michener. The purpose of the Canada games is to increase interest and participation in amateur sports throughout the country and to improve the quality of performance among Canadian athletes. The First Canadian Winter Games, held in Quebec City in 1967, opened the cycle of winter and summer games. Other games to follow include the Canada Winter Games scheduled for Saskatoon in 1971 and the Summer Games to be held in 1973.

In 1969, world champion skier Nancy Greene won the World Cup for the second consecutive year, and then retired from active competition. Among the promising young Canadian skiers is 16-year-old Betsy Clifford of Chelsea, Que., who is Canada's brightest hope for future world ski competition. Early in 1970, Miss Clifford won a gold medal in the world's giant slalom championship at Val Gardena, Italy.

A Task Force on Sports for Canadians, composed of Mr. W. Harold Rea (Chairman), Mrs. Nancy Greene-Raine and Dr. Paul W. DesRuisseaux, was established in the summer of 1968. Its report, tabled in the House of Commons in May, 1969, suggested ways to improve the extent and quality

The high jump at the Summer Games in Halifax-Dartmouth, N.S.





A 16-year-old gymnast on the Canadian Olympic team.

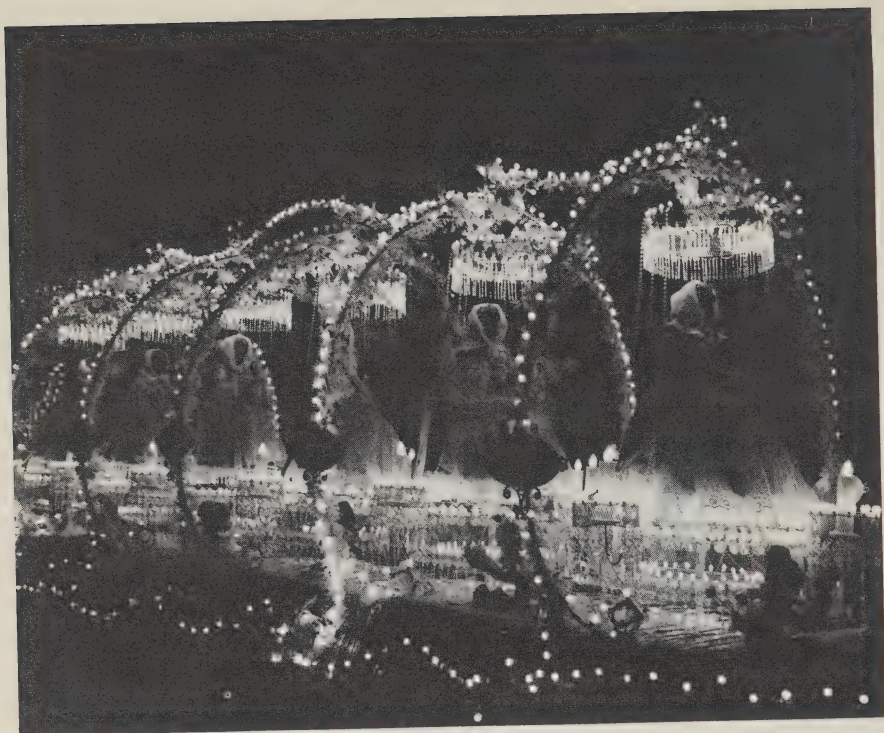
of Canadian participation in sports and the relations between professional and amateur sport, and suggested means to enhance the role of the federal government in promoting and developing Canadian participation in sport. Many of its recommendations have already been put into effect.

In the more general field of leisure, a National Conference was convened in Montmorency, Que., in September, 1969. It was organized by the Fitness and Amateur Sport Directorate of the Department of National Health and Welfare, and its purpose was to bring together participants from a cross-section of disciplines, interests, and experience who might develop an approach to leisure that would be meaningful to the Canadian people.

On the professional sport scene, the Montreal Canadiens, under their young new coach, Claude Ruel, won the Stanley Cup for the 1968-69 hockey season, defeating for the second consecutive year the Western Division St. Louis Blues.

In Canadian football, the Ottawa Rough Riders, coached by Frank Clair, captured the coveted Grey Cup again in 1969. This victory in the Canadian Football League classic was a fitting climax to the outstanding career of Canadian quarterback Russ Jackson who had announced his retirement after 12 successful years of active competition. He was chosen the outstanding Canadian athlete of the year in almost all major polls.





Quebec's winter carnival draws visitors from near and far.

Reminiscent of an outdoor café in Europe is this in cosmopolitan Toronto.



## Tourism and the Travel Industry

Tourism "the industry without smoke-stacks," is Canada's third largest earner of export dollars, exceeded only by the sale of automobile parts and newsprint. Travel expenditures in Canada by visitors to the country in 1969 were \$1,079 million, and visits totalled 36.2 million.

Estimated total expenditures on travel in Canada were \$3,500 million, Canadians spending almost \$2,500 million travelling within the country. By 1980 the value of travel to the Canadian economy is expected to soar to \$7,000 million — \$2,500 million from foreign visitors and \$4,500 million from domestic travel.

On the international scene, travel expenditure is the largest single item in world trade, amounting to some \$19,000 million in 1968. And Canada is one of the top five earners in this highly competitive market, along with the United States, Italy, Spain, and France. In fact, in the number of visitors who came into the country for one night or more in 1968, Canada, with 12,882,000 visitors, was second only to Spain with 19,184,000. Italy came third with 12,600,000.

Year by year, Canada's travel industry has been coming into better focus as a specific sector of the national economy. It is a large employer of labour and a significant consumer of goods and services. Canada's travel income is scattered across a wide field—hotels, motels, restaurants, service stations, transportation companies, tourist attractions, and many more travel-oriented services—a fact that makes it difficult to see travel as a cohesive industry. However, travel is so important that it has been estimated to have an income multiplier of 2.43 for the Canadian economy; in other words, each dollar of travel expenditure contributes \$2.43 to the gross national product. Some estimates have placed the income multiplier at an even higher level.

The following figures for Canada's earnings from visitors during recent years show the progress made by the industry since 1959. Even making allowances for 1967, which was an exceptional year because of Expo and Centennial activities, growth has been spectacular.

**Canadian Travel Earnings from Visitors  
1959-69 (Selected Years)**

Year	Earnings	Year	Earnings
1959	\$391 million	1967	\$1,318 million
1964	\$662 million	1968	\$ 992 million
1965	\$747 million	1969	\$1,079 million
1966	\$840 million		

One fact worth noting is that Canadians themselves are among the highest spenders of travel dollars in the world. In 1969, for example, they spent \$878 million in the United States, while Americans spent \$969 million in Canada. On the basis of population figures, this works out to \$41.81 and \$4.85 per capita respectively. It is even more striking that Canadians spent \$402 million in countries other than the United States while visitors from those countries spent only \$110 million in Canada.

# The Economy

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## Economics

Individuals and societies have many needs and desires. But the resources — the machinery, labour, land, savings, and enterprise — that can be used to satisfy these wants are strictly limited. Even in *relatively* affluent Canada there are very few people or organizations who could not use an extra thousand dollars. Hence the universal need for a system to ration the use of the resources of a nation or a household. Succinctly put, the economic system serves to determine what is to be produced, for whom, by whom, and how. Robert L. Heilbroner\* has pointed out that all of the systems that man has found for solving these problems can be categorized into three different types: tradition, command, and market. The first and most primitive is the economy of tradition. In such a society one produces today what one produced yesterday, which is usually what was produced a hundred years ago. The techniques of production and the distribution of the product are

\*Robert L. Heilbroner, *The Economic Problem* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968).

held constant over time. By definition, societies of tradition are very stable, but they are incapable of coping with external change.

Historically, change from a tradition-based economy has been made possible by the emergence of a strong personage and his assumption of a position of command from which, once invested with the necessary authority, he could effect changes in the traditional solutions. Under the command system the ordinary citizen found that instead of repeating what he did previously he had to do what he was told to do. He also found that in the shift to a command economy there had been a shift in power from "the past" to the élite.

Canadians are, of course, familiar with traditional solutions to many of their economic and social problems. They are even more familiar with the use of command to solve resource administration problems, especially within households and companies. In the main, however, the administration of Canada's resources is in the hands of the market.

The market economy works something like this. Each person's basic resource is his time and energy, which are sold in the labour market for money on terms that are individually or collectively arranged with buyers. Income from labour is spent or saved, and savings (earned or inherited) can be sold in the capital market.

From the fruits of his labour (and maybe that of his ancestors) each individual (or household) then enters the commodity and service markets as a buyer. He wanders through stores, reads the ads and, with his income dollars, purchases this product or that. If he likes it—or is persuaded he likes it—he may purchase it again. Each customer has "free choice."

Of course, consumers can only buy products that exist. Products and services are brought into existence (produced) by individuals or firms who are "enterprising." These entrepreneurs must start with an idea of a product or service that they think will sell. They must then acquire capital resources—land, machinery, working capital, and so on—made possible by the savings (income which is not consumed) of themselves and others. These entrepreneurs and savers must be prepared to accept risks: they may not receive the consumer interest they hoped for. Production is usually made in the anticipation of sales and these sales may or may not materialize.

The enterprisers who are successful and sell large quantities of their products will find their businesses profitable. They will be encouraged to produce more of these products and to expand their facilities (plow back profits or invest new savings). Other entrepreneurs are very likely to be persuaded to make similar investments in order to try to imitate their success.

On the other hand, enterprisers who have guessed wrong will incur losses which will force them to curtail production and perhaps go out of business altogether. In this simple way the coincidence of consumers exercising their free choice, enterprise, and the profit motive enables consumers to direct production. Of course there are many problems. The market system, like the systems of tradition or command, is far from perfect but it does provide a means of solving economic problems.

There is no systematic attempt to maintain a pure market system, however,

Scotia Square in Halifax, N.S., is one of Canada's newest shopping centres.



and elements of command and tradition abound in the Canadian market economy. As a result, the economy is in fact, if not in theory, a much-modified market system. What one earns is mainly a function of the agreement one can reach with customers or with the organization for which one works, but the government has commanded that wages be no lower than some minimum figure and it similarly rules on condition of work, collective bargaining procedure, and so on.

Thus, in the main, there is free choice. However, it is illegal to buy some drugs; advertising is regulated in various ways; hours during which goods are available may be prescribed, and so on. Generally it is left up to individual enterprise to supply goods and services, but external defence is provided collectively in market economy countries in just about the same way as it is elsewhere.

Many other goods and services are produced by the government, either by departments like the post office, which is under the immediate control or command of the government, or by Crown corporations, such as the Canadian National Railways, which operate very much like public companies. Even in the private sector it would be virtually impossible to find a single product or service which is not subject to government regulation or influence.

One of the best ways of understanding Canada's economic system is to examine some of its problem areas. It will be seen that solutions generally involve some mixture of law (command), the market, and the ever-present dead hand of the past (tradition).



One of the most talked about problems at the moment is pollution. This is an issue which is currently popular, rather than new. Pollution is a social cost which is all too often not the private cost of the person or organization causing the pollution. Differences between private and social costs have long been recognized as a problem of the market system and indeed of any other type of economy. But the solution is fairly simple. There are two options. First of all the community can in some circumstances simply prohibit pollution, which means that the manufacturer and, ultimately, his customers must pay the full cost of producing a pollution-free product. Where this is not possible, or politically acceptable, the community may levy a "pollution tax" so that the pollution can be dealt with by the government on a collective basis. In some cases the revenue of the tax on polluters might be used to compensate the victims of pollution. Using either the prohibition or the tax approach should lead to a better, more rational market system. In the process the economy or the individuals or firms involved will not be ruined so long as *collective* action is taken. If one province or one municipality tried to place a new pollution tax on, say, a pulp and paper company when a similar tax was not imposed elsewhere in that industry, the result would simply be to drive that company out of business or to a new location where it would incur costs in line with those of its competitors. In many cases pollution has to be tackled nationally, and even internationally.

Another one of the most pressing current problems is undoubtedly the control of inflation and unemployment. To understand this problem it must first be recognized that every type of economy has a tendency to fluctuate. Even in static, traditional economies fat years were followed by lean ones. Command societies do have the power to control prices and wages — more or less — by controlling business organizations and unions. Unemployment can be disguised if not cured by simply preventing layoffs. However, these techniques for controlling inflation and unemployment enormously complicate the problem of effecting transfers of resources from one use to another. In the market system an attempt is made to use indirect means for keeping the economy growing with a minimum of inflation and unemployment.

Let us first consider unemployment. The cure for unemployment is, of course, more employment, and more employment will occur when businessmen, households, and governments buy more products and services. How then, in a time of unemployment, can more spending be encouraged? It must first of all be recognized that primary responsibility for counteracting the cycle must rest with the central government. A company, a household, or a local government that by itself tried to spend the economy out of a recession would simply end up in bankruptcy. Only a powerful central government with a considerable arsenal of monetary and fiscal tools has the power to lean against the wind of a recession without falling on its face.

The government can do a number of things to increase total income, expenditures, and employment. The most obvious is to spend money itself on, say, public works. In this case the increase in employment is direct and the additional products and services will be determined by "the command" of the government. Alternatively the government can reduce taxes, leaving

more income in the hands of the taxpayers. It can safely be assumed that a very large portion of this additional, after-tax income will be spent on capital or consumers' goods via the usual market mechanism involving consumers' choice and the profit and loss mechanism. Whether the government increases its own spending or reduces taxes, the result is very likely to be that its expenditures will exceed revenues so that a government deficit will result. This deficit will be financed, not by additional taxation which would be self defeating, but by creating new money or borrowing and putting to use funds that would otherwise remain idle.

Fiscal policy, which is what has been discussed, leads therefore to monetary policy — the control of the money supply in order to limit unemployment and inflation. Through the Bank of Canada the government can cause the money supply to be increased. This additional money can be used for more government spending, or it may simply be made available to businesses and consumers through the banking system. Other things being equal, an increase in the supply of money will normally reduce the cost of its use and therefore persuade households and businessmen to spend more money on (or hire more people to produce) hydro stations, factories, houses, cars, and so on.

The present state of economic knowledge suggests that there would be absolutely no trouble curing unemployment if it were not for the related problem of inflation. Unhappily all of the policies designed to increase spending and employment will also tend to exert an upward pressure on prices.

There is no easy solution to this quandary. There is an inverse relationship between inflation and unemployment. Years of significant price increase are years of relatively low unemployment. When unemployment is high, price increases usually constitute less of a problem. Unfortunately, it is not even a matter of making a simple choice between different combinations of unemployment and inflation. Economists are beginning to suspect that sustained periods of rising prices may create expectations of further price increases which get built into business and wage contracts. The result is that it will require ever-increasing amounts of unemployment to hold the rate of inflation to a given level. In economic parlance this is referred to as an outward shift in the Phillips curve, which is just another name for the curve or function that shows the relationship between unemployment and inflation.

In Canada at the present time the federal government is trying to use public education and "moral suasion" to shift this curve back so that there can be less unemployment and less inflation. Moral suasion must persuade businessmen to make sure that higher profits are matched directly by lower prices. High profits would normally encourage businessmen to expand capacity and output. This in turn, would force down prices. The persuasion technique must aim at encouraging businessmen to make sure this process works promptly, or that high profits which, for some reason, are not used to expand output are used to reduce prices. Moral suasion must also persuade the unions that if inflation is to be avoided, wage increases in the long run simply cannot exceed gains in productivity. Material welfare

can be improved when and *only* when output is increased.

In other words real wages are dependent primarily on output and not on money wages. When money wages run ahead of output, the government is faced with a dilemma. To oversimplify, the government could decide to let the inflationary process run its course, and provide the necessary additional dollars so that the higher wage bill — the number of workers times their new higher wage rate — could be financed. This higher income would then bid up the prices of the given quantity of goods available, and the inflationary process would go on. On the other hand, the government could take a tougher line and say in effect that sufficient dollars would be provided to maintain employment at wages just sufficient to buy the nation's output at constant prices. Under this plan the money wage bill and the money income of the nation would be determined: there would be full employment as well as stable prices and wage increases which would buy the additional output resulting from higher productivity. On the other hand, with the total wage bill thus fixed, if some workers demand and receive more than their share of income, dollars will simply not be available to hire all workers, and unemployment will result.

One of the contrivances developed to clean up the waters off Nova Scotia polluted with bunker oil is Sewell's slick-licker.





Here then is the real problem. Excessive wage settlements must produce either inflation or unemployment or some of each. Must this painful unemployment course be taken or can wage demands be talked down so that more employment and more price stability can be achieved? The Prices and Incomes Commission is at present seeking to steer the country along the less painful course.

Competition and its regulation are not the burning issue that pollution or inflation is, but the regulation of business is under continuing review, and it is an extremely important element of a market system. Competition means the existence of alternatives. Thus a competitive market is one which provides choices, and therefore freedom. Freedom can, in fact, be defined as the ability to choose from among alternatives: a man who has no alternative has no problem of choosing and no freedom. A competitive market not only provides choice and freedom but in so doing it effectively limits the power of each firm.

The classical economists were so taken with the idea of competition that in their text books they constructed a market in which there was "perfect competition" among a large number of small buyers and sellers. It is now recognized that such a market is unobtainable and not even particularly desirable in most industries. For example, it would mean the loss of the lower costs that can be obtained in large and efficient manufacturing plants. It is also recognized that choice, like all good things, can be carried too far: each additional choice that is offered in the same market, for essentially the same product, may have a declining value. Indeed a point may be reached where yet another brand of soap to be priced and compared may be nothing more than a nuisance.

Canadians tend to be quite pragmatic in their approach to competition. Generally, they favour free international trade, which gives them the option of buying foreign products. They discourage price agreements. They have laws that would discourage mergers that go too far in removing the number of alternatives, and they are beginning to insist on the dissemination of more and better information about products and about the financial operating results of the companies that produce them. These last two points have been rather neglected, and yet they are absolutely essential to "consumer sovereignty." Adequate and accurate information about products is necessary if consumers are to choose their products wisely, and knowledge about the profits and losses associated with making products is necessary if businessmen are to be able to choose their investments in such a way as to expand the production of goods that are wanted and to avoid expanding facilities of products that are not.

It is a characteristic of the Canadian economic system that attention tends to get focused on its problems. Perspective should not be lost however, nor should the accomplishments of the economy be forgotten. The average Canadian today lives a longer, a healthier, and in most respects a better life than did the nobleman of a few centuries ago.

D. E. ARMSTRONG

## Economic Growth in 1969

The Canadian economy experienced another year of uninterrupted expansion during 1969. Following an increase of 8.7 per cent in 1968, the GNP (Gross National Product), that is, the value of all goods and services produced by Canadian residents, rose by 9.9 per cent in current dollars over the preceding year to reach a level of \$78,537 million. This growth was achieved despite the imposition of fiscal and monetary measures designed to curb inflation, and despite numerous labour management disputes which caused a record loss of man-hours. Much of the expansion was accounted for by rising prices, which accelerated to a rate of increase of 4.7 per cent as against 3.5 per cent in 1968. As a result, the 1969 growth rate in constant dollars was 5.0 per cent — about the same as in the previous year.

The rate of economic expansion in 1969 was highest in the first quarter. This was followed by a moderate increase in the second quarter and renewed sizable advances in the summer and fall quarters.

Two key developments during the year were an acceleration in the rate of consumer spending and increased rates of business investment in plant and equipment after two years of decline. As the economy performed vigorously, employment grew by 3.2 per cent. The labour force increased by 3.1 per cent and the unemployment rate of 4.7 per cent was slightly lower than the 1968 rate of 4.8 per cent.

**Consumer Spending.** Personal expenditure on goods and services rose by \$4,000 million in 1969 to reach \$46,400 million; this increase of 9.5 per cent was the largest since 1961. The rise in 1968 was 8.5 per cent. Although much of the 1969 increase reflected price movements rather than real gains, the 5.5 per cent rise in constant dollar estimates was also substantial, and the largest since 1965. Thus the level of consumer spending in 1969 was more than maintained in the face of sharply increasing income taxes and historically high interest rates. This last factor, however, may have affected spending on automobiles, which rose by 4 per cent after having increased by 10 per cent in 1968; automobiles were one of the few major items to show a substantially smaller rate of increase than in the preceding year.

**Exports and Imports.** The buoyancy of Canadian economic activity in 1969 was reflected in the external sector, with both exports and imports recording sizable increases. Imports of goods and services rose by 13.9 per cent as compared with an 11.5 per cent increase in the previous year; the increase in exports on the other hand, though amounting to a substantial 10.0 per cent, was markedly lower than the 14.2 per cent increase in 1968. With imports rising by \$2,358 million to a level of \$19,346 million, while exports rose by a lesser \$1,685 million to a level of \$18,480 million, Canada's balance of transactions with non-residents deteriorated from a deficit (imports less exports) of \$193 million to one of \$866 million, on a national accounts basis.

The slowdown in the growth of exports of goods compared with the previous year has been attributed to (1) a lower demand for metals in the United States following the settlement of labour disputes, which had been significant there in 1968; (2) prolonged strikes in Canadian iron, steel, nickel, and copper industries in 1969 disrupting supplies; and (3) further declines in wheat sales. Most of the advance in merchandise exports consisted of increased sales of automotive products but gains were also made in lumber, woodpulp, newsprint, and petroleum. The major factors that contributed to the increase of imports are believed to be the high level of demand in Canada, the labour problems of domestic suppliers, an improvement in the export capability of foreigners, the stimulus of industrial rationalization in the automotive industry, and the acceleration of the Kennedy Round tariff cuts introduced in mid-1969 to increase price competition. In service imports, there was a notable increase in the value of Canadian tourist and travel expenditures abroad, partly reflecting the Air Canada strike in the second quarter which led to increased use of foreign airlines by Canadians.

**Investment.** After the very high rates of increase in investment of 15 to 20 per cent that prevailed in the mid-sixties, business gross fixed capital

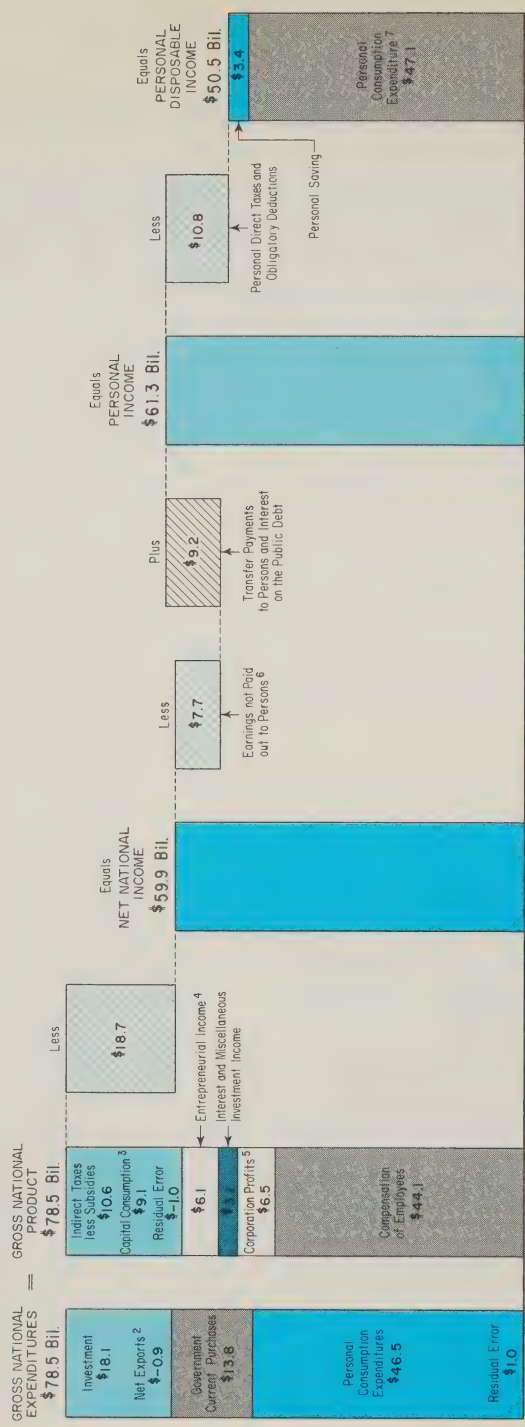
One of the many attractive boutiques in Place Bonaventure, linked underground to other centres in Montreal, Que.





# Relation between GNP, Net National Income<sup>1</sup>, Personal Income, Personal Disposable Income, and Personal Net Savings, 1969

- GROSS NATIONAL EXPENDITURE = GROSS NATIONAL PRODUCT is the market value of the total of goods and services produced by Canadian residents during the year.
- NET NATIONAL INCOME AT FACTOR COST is the total earnings of labour and property from the production of goods and services.
- PERSONAL INCOME is the total income received by Canadian residents from all sources.
- PERSONAL DISPOSABLE INCOME is equal to personal income less direct personal taxes and less obligatory deductions<sup>7</sup>; it is the income available to persons for consumption expenditure or saving.

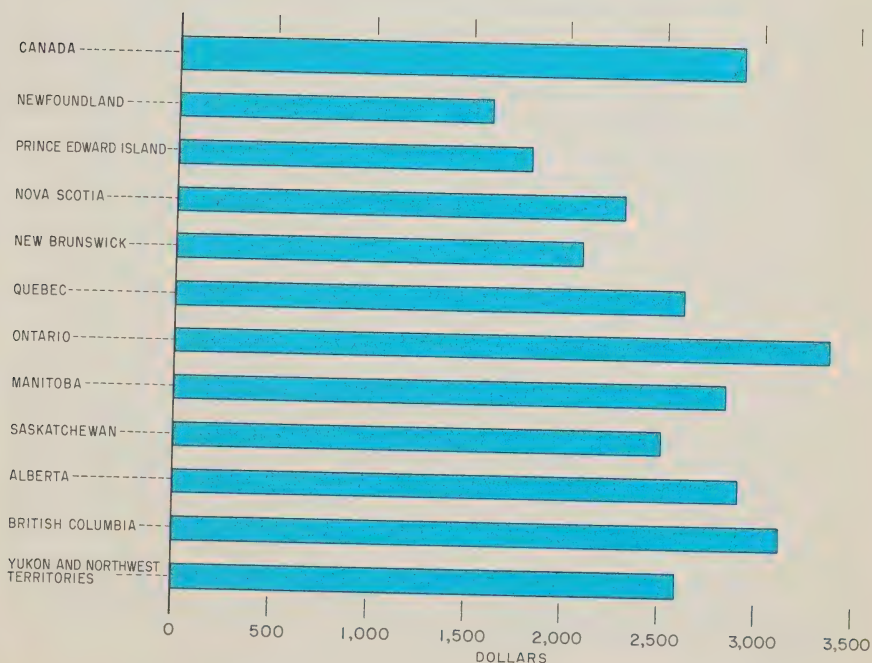


<sup>1</sup> AT FACTOR COST, I.E., AT THE COST OF THE LABOUR AND CAPITAL USED.  
<sup>2</sup> EXPORTS VALUED AT \$18.4 BILLION MINUS IMPORTS OF \$19.3. SINCE EXPORTS WERE LESS THAN IMPORTS, NET EXPORTS WERE NEGATIVE.  
<sup>3</sup> AND MISCELLANEOUS VALUATION ADJUSTMENTS  
<sup>4</sup> INCLUDES ACCRUED NET INCOME OF FARM OPERATORS FROM FARM PRODUCTION AND NET INCOME OF NON-FARM UNINCORPORATED BUSINESS.  
<sup>5</sup> INCLUDING INVENTORY VALUATION ADJUSTMENT AND MINUS DIVIDENDS PAID TO NON-RESIDENTS.  
<sup>6</sup> SUCH EARNINGS ARE MOSTLY UNDISTRIBUTED CORPORATION PROFITS, CORPORATION PROFIT TAXES AND GOVERNMENT INVESTMENT INCOME.  
<sup>7</sup> INCLUDING INTEREST ON CONSUMER DEBT AND PERSONAL REMITTANCES TO NON-RESIDENTS.  
 SOME COLUMNS DO NOT ADD BECAUSE OF ROUNDING.

formation rose by only about 1 per cent both in 1967 and in 1968. In 1969 it rose by 9 per cent. Residential construction made a further impressive gain of 16.5 per cent (against 17.5 per cent in 1968) and accounted for nearly half of the increase in the total. The acceleration in the rate of business capital spending was due to the significant resurgence of business investment in plant and equipment, which rose by 7 per cent after having declined by 1.5 per cent in 1968 and 0.5 per cent in 1967. The increases in non-residential construction were considerably smaller than generally expected and in fact declined by 3 per cent in real terms.

**Income and Profits.** Wages and salaries rose by 12 per cent in 1969, the largest gain in the current expansion except for 1966. Corporation profits rose by 7 per cent in the year. The relatively modest rise in profits was due in part to the large number of strikes, but cost pressures combined with smaller productivity gains probably contributed also. Among other income components, the major movements were shown by interest and miscellaneous investment income, up almost 24 per cent, and by accrued net farm income, up 15.2 per cent.

**Personal Income per Capita, 1969**  
**Geographical Distribution**  
 (in Dollars)



## Industrial Growth

The late 1950's were a period of relative stagnation following the tremendous expansionary pressures of the investment boom of the mid-1950's. The 1960's, on the other hand, were a period of almost uninterrupted growth at rates approaching those achieved during the early 1950's.

The period of industrial expansion which began in the fourth quarter of 1957 reached its peak in the first quarter of 1960. Over this period of nine quarters, that is, from trough to cyclical peak, total real output increased by 10.5 per cent. In the current expansion which began in the first quarter of 1961 and has continued almost uninterrupted for 35 quarters (as of the fourth quarter of 1969), real output has advanced by 59.6 per cent.

The pattern of slow growth during the late 1950's, followed by substantial advances in output, was widespread among the major industries.<sup>1</sup> The exceptions were chiefly those which even during the period of general slowdown benefited from the introduction of new technology, new products, or new marketing techniques. Such, for example, were the industries producing petroleum and coal, the chemicals group, the public utilities, air transport, and the communications industries. There are also some industries, chiefly within the community, recreation, business, and personal service group, which have expanded at a slow but steady rate throughout most of the postwar period, mainly in response to such factors as growth of population. In the current decade, these industries have continued to expand steadily. A few of the primary industries, such as agriculture, which are strongly influenced by external factors such as the weather, exhibited sharp fluctuations in annual output. This made it more difficult to define a clear-cut trend. However, the harvesting of several record grain crops during the 1960's and substantial sales of wheat abroad exerted a favourable influence not only on the agriculture industry, but indirectly, also, on the transportation and storage industries which handled the wheat, the grain-milling industry, which produced large quantities of flour for export and so forth, down to the retailer who supplied the increased demand of the farm population.

The following Table shows average quarterly growth rates for all the

<sup>1</sup>For the purpose of this article, wherever real output by industry is mentioned, "industry" includes agriculture, forestry, fishing, and trapping, mining, manufacturing, public utilities, construction, wholesale and retail trade, transportation, storage, communication, finance, insurance and real estate, public administration and defence, and community, business, and personal service. Production represents the unduplicated output of individual industries located in Canada, as measured in 1961 dollars. Total production is the sum of the output of all the individual industries.

The measurement of real output is difficult in some of these industry areas and labour input measures had to be used to represent output in some major industries. Consequently the measures may not be as sensitive to fluctuations as proper output measures would be.



major industry groupings for the two most recent expansions, that is, from the first quarter of 1961 to the present and from the fourth quarter of 1957 to the first quarter of 1960. Particularly striking are the changes in output in such industries as agriculture, construction, and durable manufacturing. As can be seen from the Table, the 2.0 per cent average quarterly increase in the output of manufacturers of durables in the current expansion was the second highest for any major industry group, and thus well above the comparable 1.3 per cent rise in total real output. The rapid advance of the durable manufacturing component can in fact be said to be among the most notable features of the current expansion.

### Quarterly Growth Rates<sup>1</sup>

	4th Q. 1957- 1st Q. 1960	1st Q. 1961- 4th Q. 1969
Real Domestic Product .....	1.1	1.3
Goods producing industries .....	1.2	1.5
Agriculture .....	0.7	1.2
Forestry .....	3.5	1.2
Fishing and trapping .....	-1.6	—
Mining .....	1.7	1.3
Manufacturing .....	1.4	1.6
Non-durables .....	1.5	1.3
Durables .....	1.3	2.0
Construction .....	-0.5	1.3
Electric power and gas utilities .....	2.8	2.1
Service-producing industries .....	1.0	1.1
Transportation, storage and communication ....	1.1	1.4
Transportation .....	1.0	1.4
Trade .....	1.1	1.2
Wholesale .....	1.7	1.2
Retail .....	0.8	1.1
Finance, insurance and real estate .....	1.0 <sup>2</sup>	0.9
Public administration and defence .....	0.5 <sup>2</sup>	0.6
Community, business and personal service .....	1.3	1.4

<sup>1</sup> Based on the terminal years compound interest rate formula.

<sup>2</sup> Based on 1949 = 100 and a 1948 weighting and industrial classification system.

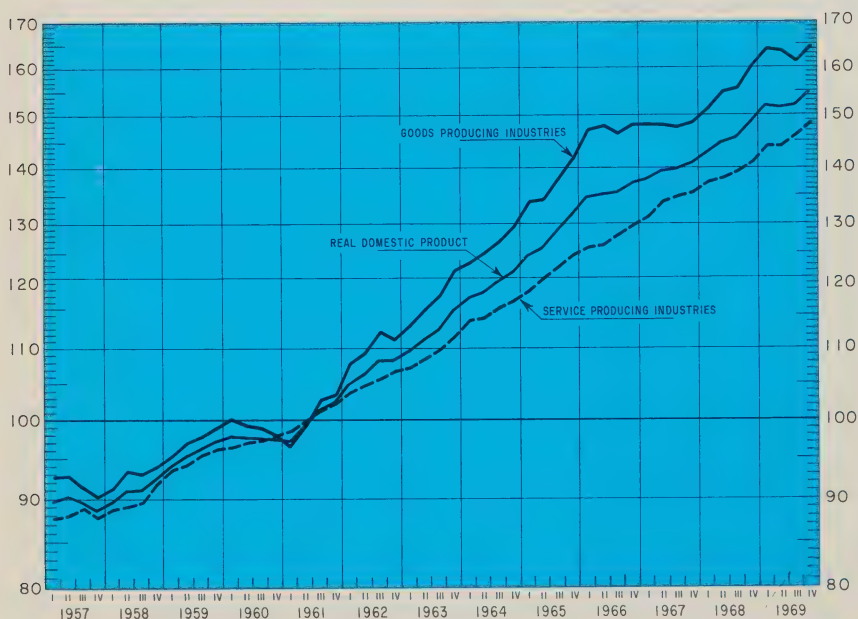
In the current expansion five industry groups have advanced more slowly up to the present than during the preceding period. One of these was electric power and gas utilities, which nevertheless was still the fastest growing industry group in the economy. Another was mining. The slowdown in both mining and electric power and gas utilities appeared to be a phenomenon which brought the rate of growth of these two industries more in balance with that of the economy as a whole. Both industries had, during the earlier postwar years, experienced exceptional expansionary pressures. Canadian mines were stimulated by a strong world-wide demand for their products, while a vast network of hydro-electric projects was needed to supply a growing population and an increasing industrialization. In addition, the tapping of Canada's natural gas resources in the western provinces, coupled with the construction of the trans-Canada pipelines,

made it possible to use gas in the heavily populated urban areas of central Canada. All these developments had started from a relatively small base, and required large-scale capital investments which reached a peak in the 1955-58 period. The result was a surge in output of the industry concerned as each new project became operational. These industries are strongly affected by technological innovations and change. But once these changes have been made, it is not surprising to see a gradual easing in the rate of growth.

The explanation for the slower average quarterly growth rate in forestry during the current expansion compared to the previous one is to be found in the substantially depressed level of output in this industry by the end of 1957. The high levels of output during the earlier part of the fifties had resulted in over-production and inventory accumulation. This, coupled with a drop in domestic and foreign prices during 1957 resulted in a sharp drop in output during that year.

The following chart illustrates the growth since 1957 in total real domestic product with a breakdown of the goods-producing and service-producing sectors. In the current expansion within the goods-producing industries, the durable manufacturing component has provided a prime thrust. The

**Growth in Real Domestic Product and Comparison of  
Goods-Producing Industries with Service-Producing Industries  
by Quarters, 1957-68**  
(Seasonally Adjusted Quantity Indexes, 1961 = 100)



major factor behind this advance in the output of durables was the unprecedented increase in the production of motor vehicles and motor-vehicle parts, which by the end of 1969 had increased by 315.3 and 156.8 per cent, respectively, from first quarter 1961. Except for production stoppages due to labour disputes, motor-vehicle production advanced without major interruption until the second quarter of 1966. A levelling off then occurred in the output of this industry both in Canada and the United States. This levelling off, which, in Canada, persisted until the second quarter of 1967, has been variously related to changes in economic conditions in North America generally, and particularly to the tightening of monetary conditions, and the upward drift of prices. In addition, public concern about car safety has also been mentioned as a factor in the decline of car sales. Clearly, none of these factors offers a unique explanation for the slowdown. By the second quarter of 1967, improved consumers' confidence and liquidity had increased and a buoyant export market encouraged an increased production of motor vehicles. A strong upward trend in motor-vehicle production has continued throughout 1968 and 1969, excluding the sharp dip at the beginning of 1968 due to labour difficulties and again in the second quarter of 1969 partly due to a shortage of parts. The iron and steel industry group was another major contributor to the current expansion, increasing by 76.8 per cent since the first quarter of 1961. By 1965, however, it was operating at full capacity and thus this industry as well experienced some levelling off during 1966 and 1967. Again, 1968 and 1969 were years of renewed growth in this industry, with the exception of a temporary dip in production during the third quarter of 1969 primarily due to time lost in labour disputes.

Despite strikes in 1969, the increase in the volume of construction has been a notable feature of the current expansion. This activity first surpassed its 1958 peak in 1964. In the intervening period, the output of the construction industry had hovered around its 1957 levels, as the industry failed to recapture the momentum of the investment boom of the mid-1950's. Large-scale new investments both in social and industrial capital were made, however, during the mid-1960's. These investments reached a new high for that time in the first quarter of 1966. The growing demand for housing, stimulated by the influx of people from the country and immigrants from abroad into urban centres and to some extent by the entry into the labour and housing markets of the first waves of the "baby boom" of the mid-1940's, resulted in a considerable expansion in residential construction, particularly during 1964 and 1969, when house-building activity set a new record. With this was a new emphasis on the construction of multiple-dwelling units. The rate of housing starts peaked early in 1969 reflecting scarcity of mortgage funds and rising interest rates and construction costs.

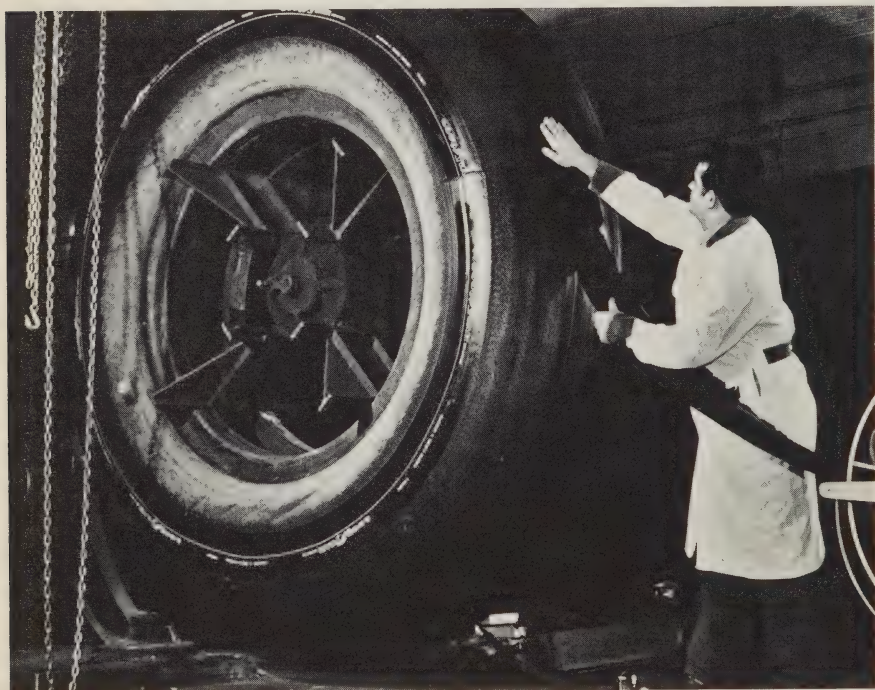
Large-scale investments in such industries as chemicals, pulp and paper, and in hydro-electric power development during the mid-1960's provided a boost to non-residential construction, as did the massive investments in social capital such as hospitals and particularly schools, which had to be built to accommodate the rapidly increasing school population. Construction activity was also spurred by projects commemorating Canada's Centennial

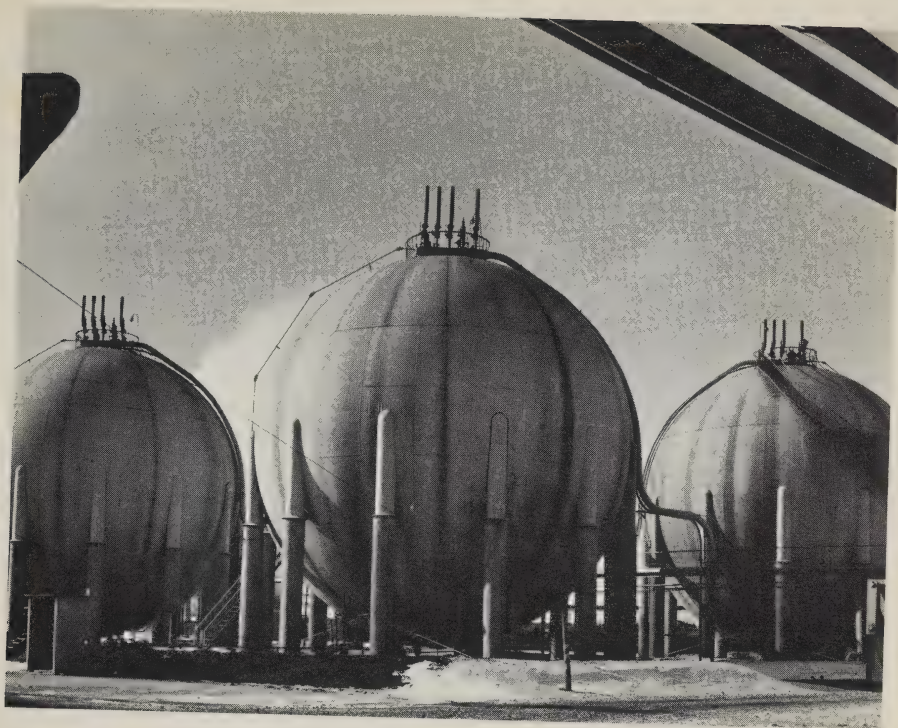


in 1967 and by outlays for Expo 67. However, at this high level of activity, certain segments of the industry in some regions were straining against their available resources. Since 1967, non-residential construction activity has backed off from the rapid pace in 1966. Again, the combination of scarce and costly funds, increasing costs, as well as the June 1969 deferral of capital-cost allowances on commercial projects in three provinces all contributed to retard growth in this sector.

Throughout the current expansion, trade and especially transportation also played an important role in increasing the output of the Canadian economy. Railway transport continued to contribute the major share of the gains in transportation, although air, pipeline, and truck transport advanced at a more rapid rate. In general, transportation played a vital role during the expansion in meeting Canada's large and growing export commitments. This was clearly indicated by the sharp increases in rail and water transport at the height of the grain deliveries to overseas countries during 1963 and 1964. In 1966 time lost in labour disputes closely approached a record for

Strips of hot rubber are wound around a giant earthmover tire to retread it.





Butane is stored in these spheres at a refinery in Sarnia, Ont. This by-product of natural gas production is used as a fuel and as a component of gasoline.

the postwar period, thus dampening the rate of expansion of the industries affected, and the total output of the economy. Again, in the second and third quarters of 1969, the air, railway, and water transportation industries were strongly affected directly and indirectly by strikes.

In summary, since 1961, Canada has experienced a period of rapid and reasonably sustained economic expansion which has, on the whole, been remarkably well balanced. There was particular strength in the vital manufacturing sector of the economy, with increasing industrial diversification within this sector. Exports increased their share of total output. Consumer demand was strong and sustained throughout most of the period. All these factors generated both non-residential and new residential investment. 1968 displayed renewed strength in output after some levelling off experienced in 1966 and 1967. 1969 on the other hand was a year of indecisive gains and losses. A major factor inhibiting over-all industrial output and masking a clearly defined trend was the increase of more than one half in the number of man-days lost to strikes and lockouts.





The Industrial Development Bank was established by Parliament in 1944 to provide financing to small and medium-size businesses, such as this egg producer, where financial assistance is not available elsewhere on reasonable terms.

## Regional Economic Expansion

The creation of the Department of Regional Economic Expansion in April, 1969, marked the beginning of a new trend in regional expansion policy in Canada. The objective of the department is to make sure that economic growth is distributed widely enough throughout Canada so that, in regions of slow growth, employment and income opportunities adjust as much as possible to those existing elsewhere in the country without, however, being prejudicial to the normal rate of national economic growth. In 1970, 22 "special areas" in 8 provinces were designated as regions to be helped by the department's programs.

In order to achieve its objective, the Department of Regional Economic Expansion has established three kinds of programs. First, it can help the private sector of the economy by offering industrial incentives, such as 20 per cent of capital costs, or \$6 million, whichever is less. Such incentives



lessen the costs of establishing new plants that will create new jobs in the regions of slow growth.

Second, the department can take direct action aimed at helping the public sector of the economy in regions where growth is slower. Indeed, less privileged provinces cannot compete with the richer ones in developing components of the infrastructure such as schools, roads, water and sewer systems, electrical services, and other local developments. These are essential components of economic growth, and the slow growth regions are bound to stagnate as long as their infrastructures have not been greatly improved. It is obvious that in order to achieve rapid progress in this field, an important part of the capital investment must come from outside the regions themselves. Such is the aim of the special area programs of the Department of Regional Economic Expansion.

The third kind of program established by the department is aimed at improving the social adjustment of people living in slow growth areas and regions. Through its industrial incentives and special area programs, the department can contribute to the economic growth and to the improvement of the public utilities. However, special measures are often needed to help people benefit from the new opportunities and adjust to their new way of living. The DREE has several means of achieving this purpose. The Department uses its Newstart vocational training programs to help those people who are particularly disadvantaged; it also makes use of a certain number of measures under the former ARDA and FRED programs.

## The Economic Council of Canada

The Economic Council of Canada, created by Parliament in 1963, is an independent advisory body. Its chief functions are (1) to define social and economic goals that Canada can *realistically* hope to achieve over, say, the next five to ten years; (2) to recommend to the federal, provincial and municipal governments, as well as to private industry, the kind of policies most likely to help achieve these objectives, and (3) more generally, to try to anticipate future problems and advise on what actions can be taken now to deal with them.

In these respects the Council is designed to assist "forward planning" in all parts of the economy. But this aspect of its work should not be confused with the official government "plans" in certain European countries, for the Economic Council of Canada is purely an advisory body; it has no government representatives among its members, and no operational duties or authority. The Council comprises three full-time economists and 25 part-time members (from labour, business, finance, agriculture and other primary industries, and the public), and is assisted by a research staff of about 60. Under its terms of reference, the Council must publish annually "a review of medium- and long-term economic prospects and problems" and may also publish other studies and reports. In addition, the federal government may

ask the Council to undertake various inquiries of an economic nature, and to date has done so twice: a 1965 reference dealt with the broad question of how to achieve reasonable price stability within a framework of other important economic goals, and more recently the Council has been reporting in stages on various aspects of combines and patent laws, and other government policies affecting competition in business and industry and the interests of the consumer.

## The Basic Goals

The Council's terms of reference encompass Canada's basic economic goals. Briefly, these goals are full employment, a high rate of economic growth, reasonable stability of prices, a viable balance of payments, and an equitable distribution of rising incomes. The objective is to attain all of the goals *simultaneously and consistently*.

Looking to 1975, the Council believes that public policies should aim at 97 per cent employment (or no more than 3 per cent unemployment) as a national average annual rate, allowing for seasonal and regional variations. If this meant only the reduction of unemployment from the levels of the late 1960's, the goal would be difficult enough. But at the same time, Canada is confronted with one of the most rapidly growing labour forces in the Western world. Between 1965 and 1975, close to 240,000 persons a year (young people emerging from school, immigrants, housewives, and others) will be looking for jobs. To absorb this huge increase and at the same time reduce unemployment, the economy must grow fast enough to provide 2.4 million new jobs over the 10-year period.

In estimating how fast Canada's total production (and thus incomes) can grow, the Council examines two groups of sources of growth: (1) increases in the *quantity and quality* of resources (for example, more manpower and capital, and higher levels of education and more efficient equipment) and (2) increases in productivity, or in the efficiency with which these resources are used and combined. For the period to 1975, the Council has estimated that the Canadian economy can increase its total production of goods and services at an average annual rate of 5.5 per cent. Approximately two fifths of this gain in output would be attributable to the employment increase, with a further small gain from an improved average educational level of the labour force. Another fifth would come from investment by governments and industry, bringing about a rise in the amount and thus in the productive capacity of the country's "capital stock" of roads, factories, machinery, and other such physical assets. The remaining portion of the growth rate, around a third, would stem from gains in productivity.

The potential growth rate of 5.5 per cent a year implies an increase in the total volume of output from about \$66,000 million in 1967 to about \$100,000 million by 1975. If Canada can achieve such output — and one must keep in mind that this is a calculation of what is *realistically* possible, and not a forecast — it would mean, for example, an increase of about one third in the average income of each person (the "standard of living"). But if the economy



Young people emerging from school are among the 240,000 persons a year who look for jobs.

fails for one reason or another to keep up to its potential, the loss would be great. For example, an average growth rate of 5 per cent instead of the potential 5.5 per cent over the 1967-75 period would mean a "loss" of more than \$3,000 million in national income.

Defining "reasonable price stability" in these circumstances of rapid growth is extremely difficult, especially since Canada is so vulnerable — through its huge volume of international transactions in goods, services, and securities — to price developments abroad, particularly in the United States. Assuming favourable international conditions and improved economic policies at home, however, the Council has defined the goal of price stability in these terms: if annual average rates of changes in prices and costs to 1975 can be contained within the range of movements over the decade from 1953 to 1963, this would represent the attainment of a satisfactory degree of price and cost stability. Over that decade, the Consumer Price Index rose on average by 1.4 per cent a year and the prices of *all* goods and services (including many not measured by the Consumer Price Index) by 2 per cent a year, with moderate variations from year to year around these rates. In recent years price increases have exceeded these limits by amounts that have caused serious concern.



As envisaged by the Economic Council, the goal of a viable balance of payments should be not merely enough international receipts to cover the country's international payments, but also some strengthening of Canada's competitive position. Assuming favourable conditions abroad, the Council has projected a \$1,000 million surplus on trade in *commodities* by 1975. However, it is anticipated that Canada will continue to run a large deficit on other international transactions such as tourism, payments of interest and dividends to foreign investors, freight and shipping charges, and business services. This deficit on so-called "invisibles" is expected to reach \$2,300 million by 1975. Thus Canada would have an over-all deficit on the current account of the balance of payments of roughly \$1,300 million in that year, to be financed by attracting foreign investment to this country. As high as this appears, it is important to relate it to a huge increase in total international transactions, and to note that the deficit as a proportion of Canada's total output would decline to about 1 per cent in 1975 from approximately 2 per cent in 1966.

## Income Disparities

The fifth goal, an "equitable distribution of rising incomes," can be viewed in a number of ways. To date the Council has concentrated on two aspects, poverty and regional disparities.

Poverty is a relative concept; although the Council has found that at least one Canadian in every five — more than 4 million persons — suffers from poverty, no one would suggest it is comparable to the deprivation found in some of the poor countries of the world. In seeking to define poverty in Canada, which has one of the highest levels of income per person in the world, the Council has estimated that all families and individuals who spend more than 70 per cent of their incomes for food, clothing, and shelter are "poor" in the sense

A centre for studying to increase skills is located at Quetico, Ont. Here men learn to survey.



that they cannot afford many of the things regarded as basic to a decent standard of life in this country. When this yardstick is applied to 1968 incomes it indicates "poverty lines" of \$1,800 a year for a single person, \$3,000 for a family of two, \$3,600 for a family of three, \$4,200 for a family of four, and \$4,800 for a family of five. Obviously, these are conservative cut-offs; living standards at or just above such levels would be modest indeed. Just as plainly, they are too arbitrary — there are too many exceptions, including students — to be regarded as a definitive measure of the poverty problem. But until more meaningful measures are developed, statistics based on these general poverty thresholds have helped to illustrate the magnitude of the problem and have provided the basis for a series of Council recommendations for policy changes and initiatives towards not just the reduction of poverty, but its eradication.

The issue of regional income disparities has been viewed by the Council to some extent as distinct from that of poverty. It is quite true that the Atlantic Provinces lag far behind the rest of the country with average incomes that are only about 60 per cent of those in Ontario, for example — a disparity that has changed little in 40 years. It is also true that the *incidence* of poverty — the proportion of people with low incomes — is higher in the Atlantic Region than elsewhere. But the largest numbers of poor people do not live there; over half of all the low-income families in Canada are west of the Ottawa River, and the majority of the poor live in the cities or in rural areas that by most standards are regarded as relatively prosperous. Thus any attempt to eliminate poverty through regional development policies — however essential these may be in their own right — would, in the Council's opinion, almost certainly fail. The Council has therefore urged that these two problems be treated separately and suggested a range of approaches and measures appropriate to each.

## Urban Growth

The Economic Council concerns itself not only with material standards of living, but with a wide range of socio-economic questions that affect the quality of life. One of these issues, and one that will become increasingly important, is urbanization.

In a situation where even now the cities are struggling against a heavy backlog of essential improvements in public services such as transportation, and water and sewerage facilities, the prospect of extremely rapid growth in future raises serious questions about whether the cities can become good places to live. The Economic Council has described this as one of the greatest challenges facing the country, and has recommended (1) the modernization of local government structures, administration, and areas of jurisdiction; (2) improvements in the quality of city management; and (3) a narrowing of the gap between the cities' responsibilities and their revenues, either by shifting some of the responsibilities to the provincial and federal governments, or by giving the cities more money.

# Scientific Research and Development

With the rapid changes brought about by advances in science and technology, increasing resources must be injected into research and development (R & D) to further stimulate such innovation, to facilitate the use of known techniques, and to evaluate the consequences of change, whether they be favourable or unfavourable. R & D results not only in new products, but also in improvements of processes and services which can contribute to the health and growth of the economy and of society.

Research in Canada is conducted by governments, universities, and industry. R & D has been increasing each year from 0.93 per cent of the Gross National Product in 1963 to 1.37 per cent in 1967. Total R & D expenditures in 1967 amounted to about \$900 million, increasing from \$675 million in 1965. In 1967, the government sector provided 53 per cent of the funds and spent 35 per cent for R & D within government establishments; industry provided 31 per cent of the funds and spent 38 per cent; universities spent most of the balance, much of it provided by the federal government in the form of grants and contracts.

## Federal Science Policy

The authority for science policy in the federal sector resides in the Cabinet which is advised by the Privy Council Committee on Scientific and Industrial Research. Advice is obtained from all departments and agencies having scientific interests as well as from the Science Council of Canada which reports, through its chairman, to the Prime Minister or his designate. The Science Secretariat serves the Cabinet and also the day-to-day needs of the Privy Council Office through its director, who is the Chief Science Adviser to the Cabinet and to the Prime Minister.

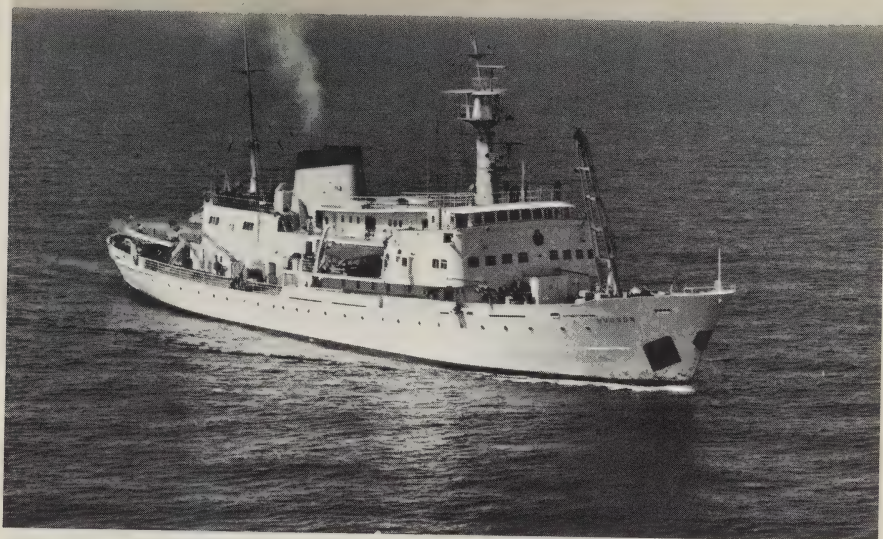
## Federal Assistance Programs

The federal government administers a number of programs that are designed to increase research, development, and innovation in Canadian industry.

**The Industrial Research and Development Incentives Act (IRDIA)**, administered by the Department of Industry, Trade and Commerce, came into force in March 1967. IRDIA provides general incentives to industry for the expansion of R & D. Under IRDIA, Canadian companies are entitled to apply for a cash grant or a credit against their federal income tax liabilities, amounting to 25 per cent of: (1) all their capital expenditures (for the acquisition of new property other than land) for scientific R & D in Canada; and (2) the increase in their current expenditures in Canada for scientific R & D over the average of such expenditures in the preceding five years.

During the fiscal year ending March 31, 1969, 454 applications for grants





C.S.S. *Hudson* circumnavigated North and South America as Canada's contribution to the U.N.'s International Hydrographic Decade. Aboard Canada's largest oceanographic research ship, 100 scientists studied the waters of four oceans.

were processed, and grants totalling over \$20 million were authorized under the Act.

**The Industrial Research Assistance Program**, undertaken by the National Research Council in 1962, is designed to promote the formation of new research groups and the expansion of existing groups in industry through grants to pay the salaries of new or additional scientists and technicians engaged on certain new applied research projects. The remaining costs are borne by the firm. During 1969, some \$6.4 million was expended on 172 projects undertaken by 107 companies.

**The Defence Industrial Research Program**, initiated by the Defence Research Board (DRB) in 1961, supported 99 defence research projects in industry in 1969 to which DRB contributed \$4.2 million, about half the costs. Since the inception of the program, some 243 projects have been assisted by DRB's contribution of \$29 million.

**The Defence Industry Productivity Program**, administered by the Department of Industry, Trade and Commerce, is designed to enhance the technological competence of the Canadian defence industry. It assists in the development of products for export and the acquisition of modern machine tools and other advanced manufacturing equipment. The purpose of the program is to help industry meet exacting civil and military standards and to help it pay the pre-production expenses necessary to establish manufacturing sources in Canada for export markets. In the fiscal year 1968-69 the department committed about \$32 million to support 180 projects.



Senior university and government biologists are sponsoring a study of production and pollution in Char Lake, Cornwallis Island, N.W.T.

**The Program for the Advancement of Industrial Technology**, administered by the Department of Industry, Trade and Commerce, was established in July 1965 to stimulate the growth of Canadian industry by providing financial assistance for the development of new and improved products and processes which involve new technology and offer good prospects for commercial exploitation in domestic and international markets. As originally conceived, the program normally contributed up to 50 per cent of the total approved costs of development projects, and the company was required to repay the government with interest if the project was successful and the results were marketed or put to commercial use. In early 1970, the terms and conditions of the program were amended to place the contribution on a grant, rather than a loan, basis and the scope of the program was expanded to include, in addition to development activities, such pre-production expenses as the preparation of production drawings, process data, reports, specifications, instructions and bills of material, the design of production tooling, and inspection and test equipment.

Projects supported under the program have included water bomber aircraft, satellite communications equipment, electromagnetic prospecting equipment, flight safety devices, advanced machinery and machine tools, wood-



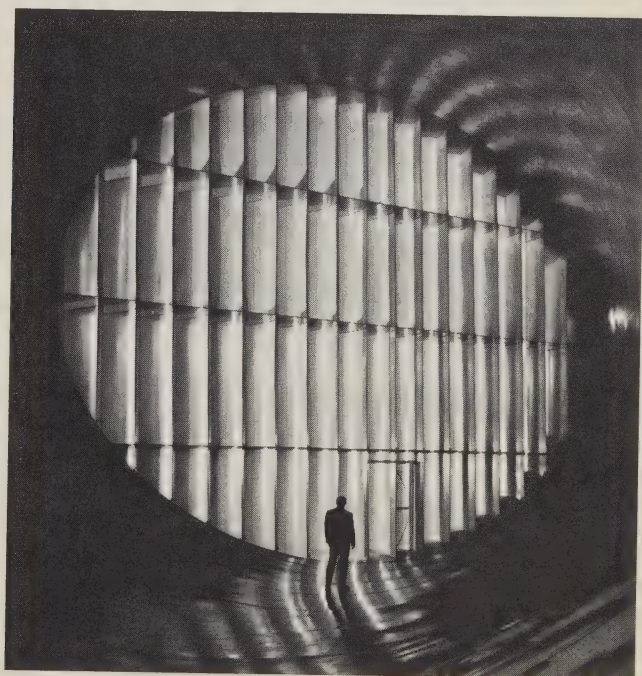
harvesting equipment and data display devices. Since the inception of the program, 210 projects involving a PAIT commitment of over \$30 million have been supported.

**The Industrial Research Institutes.** In late 1966, the federal government authorized assistance to establish Industrial Research Institutes at Canadian universities. This program is now administered by the Department of Industry, Trade and Commerce. The objectives are: (1) to foster a closer relationship between universities and industry, thus assisting the universities to improve their understanding of the problems of industry and helping industry to become acquainted with the latest pertinent scientific and technical developments; (2) to facilitate the transfer of science and technology to industry; and (3) to provide scientific services for industrial firms unable to maintain research facilities and personnel of their own.

Assistance takes the form of a grant to cover salaries and administrative expenses, usually for three years. Grants totalling \$475,000 have been authorized for the formation of institutes at the University of Windsor, McMaster University, the University of Waterloo, and the Nova Scotia Technical College. Discussions have been undertaken with other Canadian universities that are considering the establishment of similar facilities.

**Interdepartmental Committee on Innovation.** In an effort to improve the

In the NRC's new wind tunnel in Ottawa models of vertical and short take-off and landing airplanes can be tested.





co-ordination of the various departments and agencies of government concerned with the administration of industrial assistance programs, an Inter-departmental Committee on Innovation has been formed of the major participants, including the Department of Industry, Trade and Commerce, the Defence Research Board, the National Research Council, the Department of Finance, and Treasury Board. This group is active and, from the combined experience of their agencies, the members hope to devise improved incentive programs. Meetings have been organized with representatives of Canadian research and from these is emerging a much clearer picture of the problems of industrial research and development in Canada.

## Research Activities of the Federal Government

In spite of the emphasis of the federal government on the fight against inflation, many departments and agencies have been encouraged to carry out scientific R & D more vigorously.

Great emphasis has been placed on research on water resources and, in particular, on water quality. The fight against water pollution is primarily a responsibility of the Department of Energy, Mines and Resources, but is also a major interest of several other departments and agencies. Much concern is expressed about the possibility of oil spillage in Arctic waters, and the problem associated with the clean-up of oil after the sinking of the oil ship *Arrow* off the coast of Nova Scotia has intensified research on the effects of oil spillage in cold waters.

The government has recently established Telesat Canada as a joint venture with several telecommunications common carriers and the general public to produce a domestic satellite telecommunication system. Launching of the satellite is expected to take place towards the end of 1972, and the system is expected to be operating by the start of 1973.

A significant achievement by the Department of Agriculture which has evoked international interest is the development of a stable protein foam used as a persistent foam blanket to protect crops such as strawberries, tomatoes, and tobacco from frost damage.

The Defence Research Board's Valcartier establishment in Quebec has developed a gas laser that operates at atmospheric pressure. It is considered a major advance. This new type of laser should be so much simpler to produce that industrial versions should soon be available at a reasonable cost to universities, technical colleges, industries, and even high schools.

**The National Research Council.** The objectives of the National Research Council of Canada are to develop and nurture a national scientific research capability and to apply scientific research for the national benefit. The last few years have been a period of particularly rapid change, not only in the NRC's own laboratories but also in the industrial, economic, and university sectors. The NRC is devoting particular attention to a review of present programs, policies, and projections for the future. The intramural research programs of the NRC are at present organized around ten divisions. These

research programs are particularly oriented to industrial problems, but some programs are also directed towards important national and regional problems, and towards more basic and exploratory back-up research.

## Provincial Research Councils

Provincial Research Councils are located in eight of the provinces — British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Nova Scotia, and New Brunswick. All are currently engaged in research and development or have plans to undertake it. Most of the work carried out in these institutions is applied research and it is primarily directed towards supporting provincial governments and local industry. The scope of the research is fairly wide although generally directed towards subjects of interest to the provinces.

## University Research

The traditional role of universities, to generate, organize, and transmit knowledge, makes it essential that they engage in research. The kind of research they conduct is largely conditioned by their special needs and responsibilities. If universities are to fulfil their role in providing advanced education and in training research personnel, it is important that members of the faculty remain in the forefront of knowledge in their respective dis-

TRIUMF is a project of the universities of Alberta, British Columbia, Victoria, and Simon Fraser to build a major nuclear physics research centre on the campus of U.B.C.







Drs. Douglas and Plant study the mineral composition of lunar samples by means of an electron microscope.

The Great Lakes Institute is aided in its fundamental research by C.C.G.S. *Porte Dauphine*. The Institute brings together Ontario university professors of science and engineering in the study of the Great Lakes.





ciplines while retaining the breadth required to organize and transmit new knowledge effectively. Academics have traditionally favoured basic research and universities have become the principal centres of this activity. It is estimated that 70 per cent of all research in Canadian universities is basic research. This relatively high proportion reflects, to some extent, its financing. In Canada, about 80 per cent of all funds for sponsored, assisted, and contract research in the natural sciences and engineering comes from two agencies of the federal government whose purpose in supporting research is to encourage a healthy and balanced development of knowledge in Canadian universities rather than to support a particular mission. The agencies concerned are the National Research Council and the Medical Research Council. The programs of these two agencies to support university research are broadly similar in the sense that they all award grants in response to initiatives from the universities, and their criteria for support are based mainly on the merits of the individual researcher and the excellence of the project.

## Research in Industry

In addition to the federal assistance programs mentioned above, a number of steps have been taken to foster the closer co-operation of the National Research Council with industry. The new executive structure of NRC includes a Vice-President (Scientific), whose responsibilities are entirely to assist and promote industrial research. A *Délégué Général*, has been appointed to the office of the President and he shares the responsibilities for planning and reviewing programs and policies designed to provide industrial incentives, such as the important Industrial Research Assistance Program, mentioned earlier.

## SCITEC

For the first time, Canadian scientists, engineers, and technicians have come together to put their knowledge and expertise at the disposal of the government and of the people of Canada. The action arose out of an appearance before the Senate Special Committee on Science Policy when it became evident that the committee members and other arms of the Canadian government needed a direct route to the scientists and engineers. The purpose of SCITEC (the Association of the Scientific, Engineering, and Technological Community of Canada) as set forth during its founding meeting in Ottawa on January 17, 1970, is "To marshal the scientific, engineering and technological community to provide leadership, to communicate, co-operate and work within itself, with government and the public in the national interest in those areas in which it can make a competent contribution." Of great significance is the fact that the social scientists of Canada are participating in this movement, as is the already well-established French-Canadian interdisciplinary organization, *L'Association canadienne-française pour l'avancement des sciences*.

# Natural Resources

## Agriculture

Agriculture has become more commercialized during the past decade, owing to technological improvements and the growing use of power equipment. A greater interdependence with the rest of the economy has resulted. Farmers today are using increased quantities of industrial products such as commercial fertilizers, weed killers, and insecticides. Huge expenditures are made for fuel oil and other products needed to operate mechanized equipment. The production of butter and the hatching of baby chicks have practically all been transferred from farms to creameries and commercial hatcheries. Many farmers buy prepared feeds which contain farm-grown grains and additives derived from other industries.

Technological advances in the biological and engineering fields have made possible the development of larger farms specializing in poultry, dairying, grain growing, potato growing, and so on. For the most part, these farms are still owned and operated by individuals. Between 1961 and 1966, the number of census farms (that is, farms of one acre or larger with annual sales of agricultural products of \$50 or more) declined by 10 per cent and the average size of farms increased markedly. Other indications of increasing size are the larger number of farms in the higher income classes and the pronounced rise in the value of capital invested in land, machinery, and livestock.

In 1966, the occupied area of farms in Canada amounted to 174 million acres, of which 108 million were improved. There were 430,500 farms and the capital invested in land, buildings, machinery, and livestock amounted to \$19,075 million, an increase of \$6 million from 1961. On these farms are raised dairy and beef cattle, general livestock, poultry, grain, fruits and vegetables, and specialties such as tobacco and sugar beets.

In the Atlantic Provinces the agricultural areas are relatively small and, except in Prince Edward Island where the proportion of cultivated land is high, only a small proportion is suitable for cultivation. The area of purely commercial farming in Newfoundland is quite small and chief activities centre around dairying and poultry raising. However, cabbages, potatoes, and other root crops grow particularly well there. Mixed farming prevails on Prince Edward Island with the emphasis on potatoes, dairy products, and hogs.

Agriculture is diversified in the central region — Ontario and Quebec — yet there are also many farms specializing in dairying, poultry raising, tobacco, and fruit and vegetable production. Cash crops such as corn, soybeans, and white beans are also important sources of income.

In the Prairie Provinces, although cattle and sheep ranching has long been established in southwestern Saskatchewan and southern Alberta, and





A prosperous farm in the Delta region, south of Vancouver, B.C.

sizable herds of cattle are to be found scattered through the grain-growing areas, still the growing of wheat, coarse grains, and oilseed crops predominates on the majority of farms.

The mountainous topography of British Columbia limits farming to the coastal sections, the valleys and plateau regions of the interior, and the Peace River block in the northeastern part of the province. The mild, maritime climate of the coast and the concentration of people in cities have led to the development of specialized dairy, poultry, and small fruit and vegetable farms in this area. In the central interior, where the climate is more severe, there are several areas devoted to cattle and sheep ranching. In the Okanagan Valley, situated in the southern interior, fruit production predominates, particularly apple growing. In the Peace River block, agriculture has been limited to grain and forage seed production and stock raising.

## The Canada Department of Agriculture

The Department of Agriculture is one of the oldest and largest departments of the federal government. Its main activities are research into the physical and economic problems of agriculture; grading and inspecting farm products; controlling diseases and pests; providing farm credit; and alleviating the effects of weather hazards and market fluctuations. The Minister of Agriculture is responsible for the administration of 34 principal Acts of Parliament and for the programming of five branches — Research, Production and Marketing, Economics, Health of Animals, and Administration.



Important to the work of the Department are the Canadian Wheat Board, now under the jurisdiction of the Minister of Industry, Trade and Commerce, and the Prairie Farm Rehabilitation Act (PFRA), whose administration was transferred to the Department of Regional Economic Expansion in 1969. The Canadian Livestock Feed Board, a Crown corporation established in 1966, now reports to Parliament through the Minister of Agriculture.

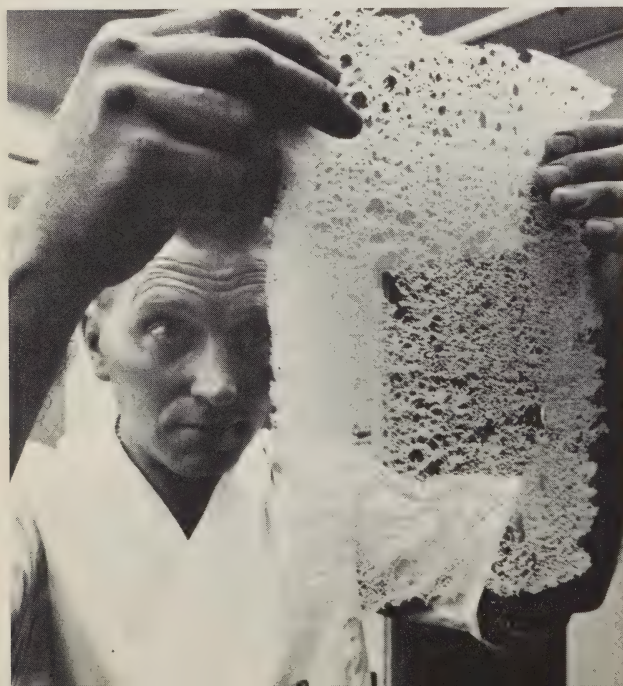
## Agricultural Research

The Research Branch of the Department of Agriculture is the largest research organization in Canada. In 1968 some 1,200 projects were under way studying soils, plants, animals, pests, diseases, engineering, and food. Research is carried out at 26 Research Stations, 14 Experimental Farms, 8 Research Institutes and 3 Research Services with establishments in all provinces. In addition, \$800,000 was provided for 167 research projects at Canadian universities.

## New Agricultural Frontiers

A protein-based foam used to protect plants from damage by frost was developed in 1967. Commercial production of the foam and manufacture of the necessary equipment for applying it have proceeded rapidly in response to requests from around the world.

The importation of cattle from France continued in 1968. Animals must



Scientists at the federal research station at Summerland, B.C., have developed a revolutionary method of capturing flavour in powder form.

be quarantined in France for six weeks and in Canada for six months before being released to Canadian farmers. A new quarantine station was established on the French island of St. Pierre off the coast of Newfoundland. In addition to the Charolais, several other breeds of cattle are being imported, including the Limousin, Simmental, and Maine Anjou.

The Farm Credit Act was extended in 1969 to make loans available to fur farmers. Loans are made to experienced farmers who require capital to develop a profitable operation.

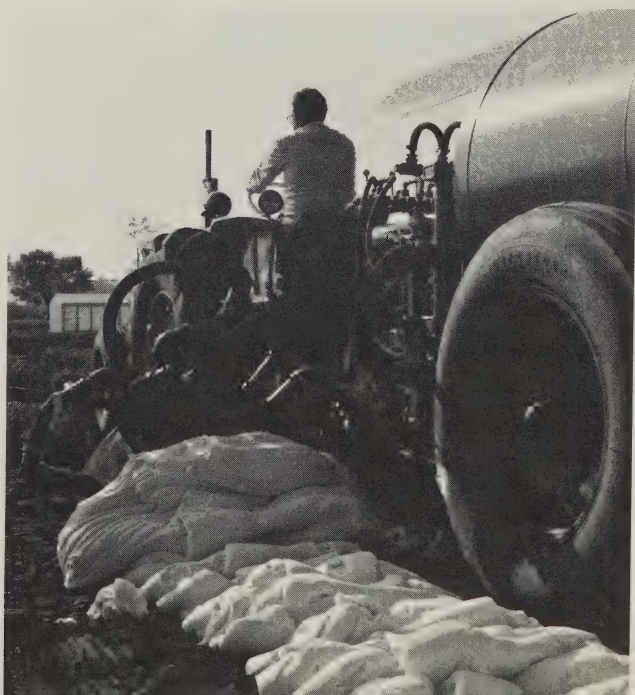
Several new plant and animal varieties were released during the year. Three new tomato varieties that will set fruit under northern conditions were developed. A new strain of poultry that will produce more eggs from less feed was released. This strain has also shown good resistance to disease.

Crop insurance programs were extended and expanded in 1969. Eight provinces have now joined the federal government in providing all-risk plans. The amount of insurance in force in 1968 was double that of 1967 and further increases are expected in future years.

Technical information for Canada's farmers is increasingly important in these days of specialization. A new system, Canadex, was introduced by the Information Division in 1969. It is designed to provide data to the agricultural industry in a form that is easily used and filed for future reference.

The Production and Marketing Branch continued its incentive programs to promote the increase of purebred stock of high quality and quantity. Grants were awarded to many groups concerned with raising the standard of Canadian agricultural production or farm and processing practices.

Foam-making machines have been designed to spread the foam that protects crops against frost. The foam was developed by scientists in the federal Department of Agriculture.





The increase of air and ship transportation of agricultural products emphasized the importance of controls aimed at preventing the importation of new diseases and pests.

The Agricultural Stabilization Board continued price supports for specified farm products in 1969. In addition, the Canadian Dairy Commission continued to stabilize the prices of milk and cream through the support of market prices and direct subsidy payments to farmers.

## Field Crops

Some 85,200,000 acres of improved land — four fifths of all the improved land in Canada — lie within the Prairie Provinces of Manitoba, Saskatchewan, and Alberta and it is from this region that a vast outflow of grains and oilseeds originates. Some of the surplus harvest is used in other parts of Canada but much of it is exported.

The semi-arid conditions of the Prairie region make it possible to produce high-quality grains but there are drawbacks, such as marked changes in output from year to year. For example, drought was a serious factor in 1961 when only 283,394,000 bushels of wheat were produced. This was followed by more normal growing conditions in 1962 with production at 565,554,000 bushels and in 1966 a record 827,338,000 bushels of wheat were grown. In

A field of mustard blooming in northern Saskatchewan.





1969 production totalled 685,000,000 bushels. Such vast changes in production put a severe strain on the grain handling and marketing facilities as well as on farm incomes. Much of western Canada's farm legislation is designed to alleviate the most serious consequences of such marked fluctuations in output.

In addition, significant changes occur in the pattern of land use as producers attempt to adjust operations to market conditions. In 1949, 27,387,000 acres of wheat were planted. Acreage declined gradually to a low of 21,560,700 in 1957 but then increased to 30,000,000 acres in 1967 and 1968.

Much less wheat was planted in 1969. Increased production of wheat in many parts of the world has reduced the export demand for Canadian wheat. Prairie farmers have responded by planting other crops, particularly rapeseed, and by increasing the numbers of cattle and hogs on feed.

In other parts of Canada, the output of field crops is tied more closely to the livestock economy; considerably more hay, pasture, and feed grains are grown. However, feed grain production is usually insufficient to meet feeding requirements and considerable quantities are moved from the Prairie Provinces each season to help meet these needs.

Prince Edward Island and New Brunswick devote much of their improved land to potatoes. Surplus potatoes are shipped to other provinces and, depending on market conditions, to the United States and other countries.

Oilseed crops, which years ago were mainly confined to flaxseed, now form a significant proportion of the field crop output. Rapeseed, a crop first planted during the war to supply needed meal for cattle feed, margarine, cooking oil, and lubricants, is a valuable cash crop in the northern areas of the Prairie Provinces. Canada is now the principal world exporter of rapeseed and the Winnipeg Grain Exchange is the only organization in the world providing hedging and futures-trading facilities for this crop. Sunflowers were also introduced as a cash crop during the war, but the production of sunflower seed has remained relatively small. Mustard seed acreage has expanded in recent years, spreading from southern Alberta to Saskatchewan and Manitoba. Soybean growing is confined to Ontario; acreage sown to this crop increased rapidly during and after World War II but has been quite uniform for the past decade.

## Farm Income

The index of agricultural production in Canada was estimated at 173.3 for 1968 (1949 = 100), 9.1 per cent above the estimate for 1967. In fact, production during 1968 was the second highest and compares with a record index of farm production of 183.3 for 1966. Much of the increase in production in 1968 from the previous year was due to expanded production of grain in the Prairie region. Lesser gains were obtained from poultry, eggs, potatoes, and dairy products. In contrast, the output of livestock and fruits declined slightly.

Total cash receipts from farming reached a record \$4,385,378,000 during 1968. This increase can be attributed for the most part to higher returns from

cattle, dairy products (including supplementary payments), eggs, potatoes, larger cash advances on farm-stored grains in western Canada and greater Canadian Wheat Board participation payments on previous years' crops. These increases more than offset a considerable decline in the sale of wheat and lower income from the sale of tobacco, western oilseeds, and barley. Increases in farm cash receipts occurred in all provinces except Manitoba and Saskatchewan. Included in these receipts are cash income from the sale of farm products, Canadian Wheat Board participation payments on previous years' grain crops, net cash advances on farm-stored grains in western Canada and deficiency payments made by the Agricultural Stabilization Board.

In addition to the income mentioned previously farmers received supplementary payments amounting to \$7,968,000 in 1968 and \$6,137,000 in 1967. These payments include those made under the provisions of the Prairie Farm Assistance Act and other government assistance to farmers who suffered losses as a result of adverse weather conditions.

During 1968, expenses involved in farm operations continued to rise and reached a record value of \$3,338,434,000, almost 4 per cent above the 1967 level of \$3,316,891,000. Farm expenditures were higher for all items except livestock feed, repairs to buildings, and "other livestock expenses," such as purchases of western feeder cattle. The greatest percentage increase occurred in the cost of fertilizer and lime which rose by more than 10 per cent over the 1967 level. Farm rents rose by more than 8 per cent mainly in Saskatchewan and Alberta where larger grain crops during 1968 resulted in increased share rental payments. Expenditures for purchased feed fell for the first time in several years mainly as a result of price declines.

Realized net income, which represents the amount of income from farming that operators have left for living costs, personal taxes, and investment, declined 3.5 per cent from the 1967 level to \$1,591,707,000 in 1968. In contrast to fairly severe declines in Saskatchewan and Manitoba, realized net income increased in Ontario and Quebec.

### Net Income of Farmers from Farming Operations 1966-68

	1966	1967	1968
	Thousands of dollars		
1. Cash income .....	4,253,851	4,379,666	4,385,378
2. Income in kind .....	442,727	480,314	536,795
3. Supplementary payments .....	41,345	6,137	7,968
4. Realized gross income (1 + 2 + 3) .....	4,737,923	4,866,117	4,930,141
5. Operating and depreciation charges .....	2,995,444	3,216,891	3,338,434
6. Realized net income (4 - 5) .....	1,742,479	1,649,226	1,591,707
7. Value of inventory changes .....	205,227	-152,333	204,994
8. Total gross income (4 + 7) .....	4,943,150	4,713,784	5,135,135
9. Total net income (8 - 5) .....	1,947,706	1,496,893	1,796,701

### Canadian Exports of Six Major Grains

In 1967-68 total exports of wheat, oats, barley, rye, flaxseed, rapeseed, and their products amounted to 410.6 million bushels, some 34 per cent less

than the 1966-67 figure of 619.0 million and 13 per cent below the ten-year average of 470.4 million. However, the 1967-68 total exports were 8 per cent greater than the long-term (1936-37 — 1965-66) average of 379.0 million bushels. Exports of wheat and flour in terms of wheat at 336.0 million bushels were 35 per cent below the 515.3 million exported in the previous year and were 11 per cent less than the ten-year average of 377.8 million but surpassed by 14 per cent the long-term average of 294.4 million. Clearances of Canadian oats and oat products, at 3.5 million bushels were less than the 4.8 million in 1966-67. Exports of Canadian barley and its products amounted to 41.4 million bushels, much below the 1966-67 level of 58.5 million while rye exports also showed a relatively substantial decrease from 10.0 million bushels in 1966-67 to 4.8 million in 1967-68. At 12.6 million bushels, clearances of flaxseed were 24 per cent below the 1966-67 level of 16.6 million while rapeseed exports, at 12.3 million bushels, were 11 per cent below the previous year's record of 13.8 million.

The 1967-68 exports of bulk wheat, at 310.7 million bushels, were sharply below the preceding year's total of 482.7 million and also lower than the recent ten-year average of 337.4 million.

During the 1967-68 crop year, Britain became Canada's principal wheat customer. With imports from Canada of 62.1 million bushels, Britain moved from third position the previous year to first position on the list of Canada's principal wheat customers for 1967-68. Communist China remained Canada's second largest wheat market with imports of 52.0 million, while the U.S.S.R. purchased 49.0 million and became Canada's third largest wheat customer in contrast to being the largest customer in the previous year. Other leading markets during 1967-68 with quantities in millions of bushels, 1966-67 figures in brackets, were as follows: Japan, 40.8 (60.2); India, 22.4 (42.0); Federal Republic of Germany, 17.5 (22.6); Italy, 10.2 (9.5); Belgium and Luxembourg, 9.9 (13.8); Cuba, 5.9 (7.2); Poland, 5.8 (13.8); and the Netherlands, 5.0 (2.6).

**The Wheat Board.** The Canadian Wheat Board, a Crown corporation in operation since August 14, 1935, is the general agency for all wheat, oats, and barley produced in western Canada and sold commercially in other parts of Canada or abroad. The farmer places these grains in annual marketing pools operated by the Board. He receives an initial payment at the time he delivers the grain to a country elevator or into a railway car and participates on the basis of his grain deliveries in any surplus the Board may subsequently realize on the sale of grain.

Through the provision of an initial price guaranteed by the Government of Canada, the Board stands as a buffer between the farmer and the constantly changing conditions of supply, demand, and price under which wheat is produced. At the same time, the division of participation payments steadies the flow of farm income and spreads it throughout the year.



### Estimated Area, Yield, and Production of Principal Field Crops, 1967 and 1968

Crop	Area in Acres		Yield per Acre in Bushels		Production in Bushels	
	1967	1968	1967	1968	1967	1968
All wheat .....	30,120,800	29,422,500	19.7	22.1	592,920,000	649,844,000
Winter wheat .	400,000	355,000	38.7	42.0	15,480,000	14,910,000
Spring wheat <sup>1</sup> .	29,720,800	29,067,500	19.4	21.8	577,440,000	634,934,000
Oats for grain ..	7,436,100	7,555,900	40.9	48.0	304,178,000	362,516,000
Barley .....	8,115,000	8,836,500	30.6	36.8	248,662,000	325,373,000
All rye .....	685,300	678,600	17.5	19.2	11,981,000	13,049,000
Fall rye .....	601,000	590,600	18.1	19.6	10,864,000	11,589,000
Spring rye ....	84,300	88,000	13.3	16.6	1,117,000	1,460,000
Mixed grains ....	1,668,200	1,667,000	45.8	51.4	76,427,000	85,602,000
Corn for grain ..	875,500	957,500	84.6	84.8	74,083,000	81,168,000
Buckwheat .....	75,500	81,400	17.1	16.9	1,292,000	1,376,000
Peas, dry .....	47,400	53,300	23.5	19.2	1,115,000	1,022,000
Beans, dry .....	86,000	90,900	16.7	17.8	1,435,000	1,621,000
Flaxseed .....	1,023,400	1,524,400	9.2	12.9	9,378,000	19,666,000
Soybeans .....	290,000	295,000	27.9	30.6	8,091,000	9,027,000
Rapeseed .....	1,620,000	1,052,000	15.2	18.4	24,700,000	19,400,000
			cwt.	cwt.	cwt.	cwt.
Potatoes .....	303,800	303,300	153.9	174.4	46,743,000	52,883,000
			lbs.	lbs.	lbs.	lbs.
Mustard seed ...	221,000	533,000	678	880	149,900,000	469,000,000
Sunflowerseed ..	45,800	40,000	786	619	36,010,000	24,750,000
			tons	tons	tons	tons
Tame hay .....	12,902,000	12,438,000	1.97	1.85	25,385,000	23,034,000
Fodder corn ....	596,400	630,300	12.29	12.53	7,328,000	7,900,000
Field roots .....	13,700	13,000	12.48	13.00	171,000	169,000
Sugar beets ....	83,305	79,666	12.98	13.79	1,081,082	1,098,221

<sup>1</sup> Includes relatively small quantities of winter wheat in all provinces except Ontario.

## Fruits and Vegetables

The fruit and vegetable industry is an important part of the agricultural and food distribution sectors of the economy. Fresh and processed fruits and vegetables account for more than one third of the quantity of all food consumed in Canada and one sixth of the value of food consumed. There are over 20 horticultural crops grown in Canada with a farm value of over \$1 million each as well as dozens of less important ones.

The most important fruit grown in Canada is still the apple. Commercial apple orchards are found in Nova Scotia, New Brunswick, southern Quebec, much of Ontario, and the interior of British Columbia, particularly in the Okanagan Valley. Tender tree fruits — pears, peaches, cherries, plums — are also grown in Ontario with the most important concentrations in the Niagara Peninsula and in Essex County. These same fruits as well as apricots are also grown on a large scale in the southern part of the Okanagan Valley in British Columbia.

In addition to tree fruits, strawberries and raspberries are cultivated commercially in the Maritimes, Quebec, Ontario, and British Columbia. British Columbia fruit growers also produce loganberries commercially in



A field of potato plants in bloom in New Brunswick.

the Lower Mainland and on Vancouver Island. Grapes also are grown quite extensively in the Niagara district of Ontario and on a smaller scale in British Columbia. The native blueberry is found wild over large areas in Canada and is harvested in commercial quantities in the Atlantic Provinces, Quebec, and Ontario. A cultivated crop is grown in British Columbia.

Canada is a large apple exporter. However, as a result of increased competition exports have been declining and it is likely this trend will continue. Most of the other fruit crops are usually below domestic requirements; exports increasingly make up the deficit. A considerable proportion of the imported fruits are brought in during the season when domestic supplies are off the market.

The total farm value of fruit crops grown in Canada in 1968 reached \$87 million. In the districts where fruit crops are produced their sales make up an important part of the farmers' incomes and play an important role in the farm economy. The 1969 apple crop was estimated at 21,682,000 bushels, greater than the 20,081,000-bushel crop of 1968.

The production of field-grown vegetables in Canada is seasonal. During the winter when no domestic vegetables are being harvested, except in greenhouses, supplies of most fresh vegetables are imported duty free from the United States. During our growing season a large percentage of the



domestic requirements are met from Canadian output. Some vegetables are exported from Canada, particularly to a few large centres of population in the United States, close to the border.

An estimated 245,020 acres were planted to commercial vegetable crops in 1969; 257,460 acres were planted in 1968. Farm value of the production amounted to \$76.7 million in 1968 and \$81.1 million in 1967. The area harvested for the principal canning crops, beans, corn, peas, and tomatoes totalled 152,060 acres in 1968 and declined to 131,231 acres in 1969.

Potatoes are the most important of the vegetables produced in Canada. They account for almost two thirds of the value of all vegetable production and about 3 per cent of Canadian cash farm income. Production slightly exceeds consumption and normally about 5 per cent is exported.

The processing industry plays an important part in the marketing of Canadian-grown fruits and vegetables. Over the years factories have been built in most of the important growing regions and considerable proportions of fruit crops and vegetables, particularly asparagus, beans, peas, corn, and tomatoes, are canned, frozen, or otherwise processed each season. In recent years the importance of freezing has been increasing although the amount of produce processed in this way is still much smaller than the volume canned. Most of the vegetables for processing are grown under a system whereby the processor contracts annually with each grower for certain acreages.

Cattle ranching is an expanding business as western farmers seek other means of livelihood than growing wheat.





## Livestock

The livestock industry occupies a prominent position in Canadian agriculture and is one of the most important sources of farm income. In 1968, the sale of cattle, pigs, and sheep amounted to about \$1,400 million, constituting about 32 per cent of the total cash receipts of farms. The sale of cattle and calves contributed more to farm cash receipts than the sale of any other single farm commodity. Pigs were the fourth largest cash earner after cattle and calves, wheat, and dairy products.

At June 1, 1969, total cattle and calves on farms were estimated at 12,467,000, down 1 per cent from the estimate of 12,566,000 at June 1, 1968. This decrease is commensurate with the decline in cattle numbers since 1965. Likewise, the total inspected slaughter decreased by 2.4 per cent, from 2,784,379 head in 1968 to 2,718,567 in 1969. This decline in cattle slaughtered was due to the fact that more cattle were kept back in feedlots rather than to the decline in inventories. And as a further consequence of this increased feedlot feeding, cattle exports to the United States decreased in 1969 from the levels of past years. Exports to the United States of cattle for slaughter totalled 26,536, down 24.8 per cent from 1968; shipments of feeder cattle totalled 26,248, down 79.5 per cent from 1968. Exports of live veal calves in 1969 declined to 115,684, down from the 1968 figure of 121,684. Almost all of the veal exports originated in Quebec and Ontario and were a by-product of the dairy sector. Exports of dressed beef meat also declined in 1969; total beef and veal exported to the United States and other countries decreased from 50,588,285 pounds in 1968 to 47,822,220 pounds. Considering the decrease in cattle marketed, together with increased domestic requirements, prices in 1969 were higher for all grades of cattle. Choice slaughter steers averaged \$31.10 per 100 pounds at Toronto, up considerably from the 1964-68 five-year average of \$26.70. Feeder steers averaged \$31.60 per 100 pounds; the five-year average was \$26.05. Veal calves were \$38.05 per 100 pounds, up from the 1964-68 period by \$4.60.

There were 5,792,000 pigs on farms in Canada on June 1, 1969, about 2 per cent more than in 1968. In the eastern part of the country, numbers were down by 1 per cent; but in the West, pig numbers were up by 6 per cent. Despite the over-all increase in hog numbers, gradings (inspected slaughter) in 1969 were down 8.1 per cent. Western output was down 10.0 per cent; all four provinces recorded decreases. In the East, production dropped 7.0 per cent. As a consequence of the lower level of hog marketings, exports of dressed pork were down, from 60,027,810 pounds in 1968 to 57,611,169 pounds in 1969. Imports of pork meat, on the other hand, totalled 65,156,000 pounds, almost double the 1968 figure. In 1969, hog prices were surprisingly strong; the average hog price at Toronto was \$35.00 per 100 pounds of Index 100 hogs, and at Winnipeg the 12-month average price was \$33.45.

The sheep-raising industry in Canada continued to decline in 1969. Sheep and lambs at June 1, 1969 were estimated at 883,000 down 1 per cent from 891,000 at June 1, 1968. Federally inspected sheep and lamb slaughter in 1969 also continued the downward trend reaching a record low of about 212,751, down 24.7 per cent from 1968. This slaughter level is only about

one half of the output just five years ago. All provinces recorded declines in output. The trade in sheep and lambs also showed a decline in 1969 from 1968. Exports of live animals to the United States decreased to 22,466 from 24,934 while imports from the United States decreased to 18,816 from 21,209. Considering the lower marketing output, monthly lamb prices in 1969 were higher on the average than in 1968. The yearly average for good lambs was \$32.80 per 100 pounds at Toronto, \$3.15 per 100 pounds above the 1968 figure.

## Dairying

Milk and milk products have been an important source of food in Canada since the arrival of the earliest settlers. However the consumption of milk and its equivalent in dairy products has been declining in recent years, dropping from 918 pounds a person in 1963 to 846 pounds in 1968.

In 1968 there were about 2.6 million milk cows producing 18,335 million pounds of milk, whose value to farmers was \$706 million. There are about 185,000 dairy farms in Canada. Milk is distributed for consumption and also manufactured into various dairy products by approximately 1,200 dairy plants.

As can be seen from the accompanying table on milk production and use, total milk production for 1968 was 18,335,214,000 pounds. More than 13,000 million pounds were produced in Ontario and Quebec, the provinces having

**Dairy Production, by Economic Area, 1966-68**

Economic Area and Year	Total Milk Production	Fluid Milk Sales	Products Manufactured <sup>1</sup>				
			Butter Creamery	Farm	Cheddar Cheese	Ice Cream	
Thousands of pounds							Thousands of gallons
Maritimes . . . . .	1966	897,427	372,208	12,979	324	3,154	2,131
	1967	873,719	373,665	11,528	318	4,174	2,178
	1968	828,820	363,619	10,193	321	3,778	2,276
Que. and Ont. . . . .	1966	13,218,022	3,561,152	244,322	609	159,809	16,171
	1967	13,230,342	3,508,106	247,415	594	150,267	17,040
	1968	13,374,106	3,453,082	254,291	574	155,044	16,794
Prairies . . . . .	1966	3,377,669	803,821	72,442	2,256	3,743	5,401
	1967	3,228,987	792,608	66,723	2,131	5,221	5,784
	1968	3,215,963	790,521	65,548	2,036	5,307	5,588
B.C. . . . .	1966	880,066	510,717	4,163	122	1,440	2,946
	1967	895,392	527,095	4,233	121	1,418	3,145
	1968	916,325	522,166	5,146	110	1,713	3,239
Totals . . . . .	1966	18,373,184	5,247,898	333,906	3,311	168,146	26,649
	1967	18,228,440	5,201,474	329,899	3,164	161,080	28,147
	1968	18,335,214	5,129,388	335,178	3,041	165,842	27,897

<sup>1</sup> Not included in this table are: whey butter: 4,983,000 pounds in 1966, 5,348,000 pounds in 1967, and 5,940,000 pounds in 1968; other kinds of cheese: 26,624,000 pounds, 30,165,000 pounds, and 32,791,000 pounds, respectively; and concentrated milk products, 736,564,000 pounds, 759,631,000 pounds, and 806,752,000 pounds, respectively.

the largest populations in Canada. Correspondingly, most of the milk and its products are used in these two provinces. Although dairying is practised in all farming areas across Canada, highly specialized milk production occurs in the vicinity of more densely populated regions. Dairy farms are fewer and larger than a decade ago. Using census years, there were 399,000, 309,000, and 222,000 farms reporting milk cows in 1956, 1961, and 1966, respectively. In 1956, 1961, and 1966, there were 33,000, 38,000, and 39,000 farms with herds of 18 to 32 cows. In addition, milk production by each cow has increased tremendously during the past two decades as a result of selective breeding, artificial insemination, and improved feeding and management.

The most important dairy products are fluid milk, butter, cheese, and skim milk powder. It takes 23.4 pounds of milk to make one pound of butter, 11 pounds of milk to make one pound of cheese, 11 pounds of skim milk to make one pound of skim milk powder, and 17 pounds of milk to make one gallon of ice cream. Most of the milk and milk products are consumed in Canada, although some cheese and skim milk powder are exported. Milk is processed and milk products are prepared under very sanitary conditions. This is necessary because milk is very perishable and extremely susceptible to bacteria.

"Parlour-milking" is a technical improvement used on modern dairy farms. The milk is pumped direct into bulk tanks for immediate cooling and storing.





## Poultry and Eggs

The intense competition in the raising of poultry continues as new techniques in breeding, feeding, and housing are applied to increase production, and hence to broaden the market and raise income. General farms have tended not to compete with poultry farms, particularly those specializing in the raising of broiler-weight chickens and turkeys. The number of census farms keeping chickens decreased from 266,080 in 1961 to 176,823 in 1966 while chicken meat production advanced by 36.5 per cent. However, the number of farms with hens and pullets 6 months and over decreased from 223,700 to 143,115 and egg production dropped by 3.1 per cent. The number of census farms keeping turkeys declined from 36,698 to 21,309 but turkey meat production increased 48.2 per cent.

The seasonal variations in the number of eggs reaching market have largely disappeared, as the vagaries of climate have been eliminated and as poultry farms have been built in the neighbourhood of large cities such as Montreal, Toronto, Winnipeg, and Vancouver. Other districts where broiler and egg production is concentrated are the Annapolis Valley of Nova Scotia, Moncton in New Brunswick, and southwestern Ontario. Eggs and poultry are marketed under firm standards applied uniformly from coast to coast by the federal government's inspection service.

## Furs

The early history of Canada was closely associated with the fur trade, which strongly influenced exploration and settlement. The income from wildlife pelts is still important to the economy, especially of more northerly and sparsely settled areas, providing a welcome revenue where other employment is scarce. However, income from trapping has been surpassed by the income from pelts of animals raised in captivity.

By 1940 the value of mink pelts from some 3,300 farms exceeded \$2 million. The number of fox pelts produced declined rapidly during the postwar period and since 1957 has averaged less than 2,000 pelts a year from a few farms. Mink pelt production, on the other hand, has been growing quite steadily with increasing specialization. Fewer farms, only 1,147, produced over \$23 million worth of mink pelts in 1968.

While mink has accounted for about 99 per cent of the value of fur farm pelts in recent years, chinchilla raising is increasing and there is local interest in some provinces in nutria production. Other animals, such as fisher, marten, lynx, and raccoon have been raised successfully on some fur farms, but the number of such pelts produced is very small.

Fur farms pay a nominal licence fee in most provinces and operate under the supervision of provincial government departments. Research on the breeding, feeding, housing, and general care of fur-farm animals is conducted at a federal experimental farm at Summerside, P.E.I.



At this fur auction in Montreal, buyers from Canada and abroad choose beaver pelts such as these, and other furs.

### Number and Value of Pelts Produced, by Kind, 1968-69

Kind	Number	Value	Average Value
		Dollars	
Wild:			
Squirrel .....	958,710	435,367	0.45
Muskrat .....	1,754,393	2,339,330	1.33
Beaver .....	437,875	8,056,118	18.40
Ermine (weasel) .....	106,009	107,472	1.01
Rabbit .....	57,851	26,679	0.46
Mink .....	120,935	1,637,517	13.54
Fox — White .....	20,231	316,894	15.66
Other .....	39,820	514,088	12.91
Lynx .....	20,677	644,296	31.16
Marten .....	64,803	538,570	8.31
Raccoon .....	47,835	301,234	6.30
Seal — Fur Seal — North Pacific <sup>1</sup> .....	13,318	814,481	61.16
Hair Seal .....	210,099	1,594,770	7.59
Other (badger, bear, coyote, fisher, otter, skunk, wildcat, wolf, wolverine) .....	67,776	1,336,337	...
Totals .....	3,920,332	18,663,153	...
Ranch-raised:			
Chinchilla .....	18,854	187,983	9.97
Fox .....	1,282	46,588	36.34
Mink .....	1,667,945	22,689,586	13.60
Nutria <sup>2</sup> .....	888	1,776	2.00
Total .....	1,688,969	22,925,933	...
Grand Totals <sup>3</sup> .....	5,609,301	41,589,086	...

...Not applicable.

<sup>1</sup> Commonly known as Alaska Fur Seal. The value figures are the net returns to the Canadian Government for pelts sold.

<sup>2</sup> Estimated at \$2.00 per pelt.

<sup>3</sup> Includes pelts not allocated by type.

## Minerals and Energy

Canada is richly endowed with mineral wealth: it ranks as the world's third largest producer of various minerals, after the United States and the Soviet Union. A great deal of Canada's history is closely entwined with mineral exploration and development, beginning with Frobisher's illusory search for gold in the 16th century. Coal in Nova Scotia and iron ore in Quebec were discovered and later mined in the 17th and 18th centuries. The Geological Survey of Canada, founded in 1842, encouraged the collection of information about Canada's minerals. In the next decade came the first gold rush — to Barkerville in the Cariboo district of British Columbia. Silver, zinc, and lead were subsequently found in the Kootenay district. Crews blasting a roadbed for the Canadian Pacific Railway in northern Ontario first revealed the riches in copper and nickel to be found there. The most famous event in Canadian mining history undoubtedly was the Klondike gold rush of 1896, but more significant have been the discoveries in the 20th century of cobalt, silver, uranium, asbestos, and potash, for example, as well as more copper, nickel, and iron ore.

The remarkable progress of the Canadian mining industry since the Second World War is shown by the increase in value of mineral production from \$499 million in 1945 to \$4,691 million in 1969. A measure of the importance of mining to the Canadian economy may be found in the following figures: over \$1,000 million invested in mineral development in 1969; over \$3,100 million worth of mineral products exported—almost a quarter of Canada's export trade; more than 100,000 Canadians employed in the industry; about 260 mines operating. Cities such as Sudbury, Ont., and Trail, B.C. depend almost entirely on the mineral wealth in the surrounding area, while Toronto and Calgary are financial centres for the mining and oil industries and many people employed in these cities depend on mining for their livelihood.

The value of production of Canadian minerals in 1969 dropped to \$4,691 million from \$4,725 million in 1968. This decline is attributable to labour disputes which curtailed production of copper, nickel, and iron ore. These three minerals rank among the top four revenue producers in Canada.

Metallic minerals accounted for 50 per cent of the value of Canadian mineral production in 1969. In order of importance the principal metallic minerals produced in Canada are copper, nickel, iron ore, zinc, lead, gold, and silver. Led by petroleum and natural gas, mineral fuels accounted for 31 per cent of the total value of production. Structural materials and non-metallic minerals accounted for 10 per cent and 9 per cent respectively. The main structural materials are cement, sand and gravel, and stone while the non-metallic minerals group is dominated by asbestos followed by potash and elemental sulphur.

The leading mineral commodity in 1969 was crude petroleum with a value of production of \$1,010 million, up from \$937 million in 1968 and \$423 million in 1960. The crude petroleum industry is treated in detail below.





Despite the modern techniques employed in mining, one part is the same as in gold-rush days: staking a claim.

Copper production in 1969 declined to 558,228 tons, valued at \$574 million; the figures for 1968 were 633,313 tons and \$608 million. Canada ranks fourth in the production of copper in the non-Communist world. The major producing provinces were Ontario (228,944 tons), Quebec (157,960 tons), and British Columbia (81,344 tons). The International Nickel Company with mines, mills, smelters, and a copper refinery in the Sudbury district of Ontario is Canada's largest copper producer. The second largest Canadian production comes from the Kidd Creek Mine near Timmins, Ont., operated by Ecstall Mining Ltd. The leading copper producers in Quebec are Gaspé Copper Mines at Murdochville and Opemiska Copper Mines Ltd. at Chapais.

Despite labour-management difficulties which reduced production from 264,358 tons in 1968 to 213,325 tons in 1969, Canada retained the leadership in world nickel production. World shortages of nickel during 1969 and greater labour costs increased the average value of production from \$1.00 a pound in 1968 to \$1.11 a pound in 1969. Most of Canada's nickel is produced in the Sudbury, Ont., region from mines operated by the International Nickel Company and Falconbridge Nickel Mines Ltd.

The fourth most important mineral in Canada is iron ore. Production in 1969 amounted to 40 million tons (worth \$432 million); in 1968 it was 47 million tons (worth \$533 million). The Iron Ore Company of Canada's Carol Lake mine in Labrador is the leading producer, followed by Quebec Cartier Mining Company at Gagnon, Que., and the Iron Ore Company mines



Copper and zinc, with a small quantity of lead and traces of gold and silver are extracted by Hudson Bay Mining and Smelting Co., Ltd. at its North and South Main mines.

on the Quebec-Labrador border. Canada is the fourth leading producer of iron ore, following the U.S.S.R., the United States, and France.

Ranked according to value of production, zinc was the fifth most important mineral produced in Canada. Production rose to 1,196,291 tons valued at \$364 million in 1969 from 1,159,392 tons worth \$327 million the previous year. Zinc production in Canada has almost tripled during the last ten years. Canada is the non-communist world's leading zinc producer; it provides nearly a third of the total. Three relatively new mines account for over half the Canadian output, of zinc: Ecstall Mining Ltd. near Timmins, Ont., Pine Point Mines Ltd. at Pine Point, N.W.T., and Brunswick Mining and Smelting Corporation Ltd. near Bathurst, N.B.

Natural gas production continued its phenomenal growth with an output of 1,985,000 million cubic feet worth \$264 million. Production in 1968 was 1,692,000 million cubic feet (\$225 million) and in 1960 was only 523,000 million cubic feet (\$52 million). Natural gas is dealt with in the energy section below.

Among Canada's most important minerals, asbestos continued to hold seventh position in 1969 although production remained steady at 1,596,450 tons, valued at \$197 million. Over 80 per cent of the asbestos produced



in Canada comes from the province of Quebec; the rest comes from the Yukon, British Columbia, Newfoundland, and Ontario. The largest asbestos-producing mines are the Canadian Johns-Manville Company Ltd.'s Jeffrey Mine at Asbestos, Que., and the Asbestos Corporation Ltd.'s British Canadian and King-Beaver mines located at Black Lake, Que., and Thetford Mines, Que., respectively. Canada produces approximately a third of the world's total supply of asbestos and is second only to the U.S.S.R. in annual production.

Cement is the most important structural material produced in Canada and the eighth in the list of minerals. About two thirds of Canadian cement comes from Ontario and Quebec where 13 of the 23 cement plants in Canada are located. The largest of these are operated by the St. Lawrence Cement Company at Clarkson, Ont., the Canada Cement Company at Montreal, Que., and the Miron Company Ltd. at St. Michel, Que.

Among the minerals of lesser importance whose production has increased enormously in the past decade are natural gas by-products, elemental sulphur, potash, and molybdenum. The growth in natural gas by-products (pentane, butane, propane, and so on), from \$16 million in 1960 to \$136 million in 1969 is, of course, directly related to the increased production of marketable natural gas which was made possible by the construction of a network of pipelines to transport the natural gas from the fields in western Canada to consumers in the East.

Shown below is Falconbridge Nickel Mines' new Lockerby mine, west of Sudbury, Ont.







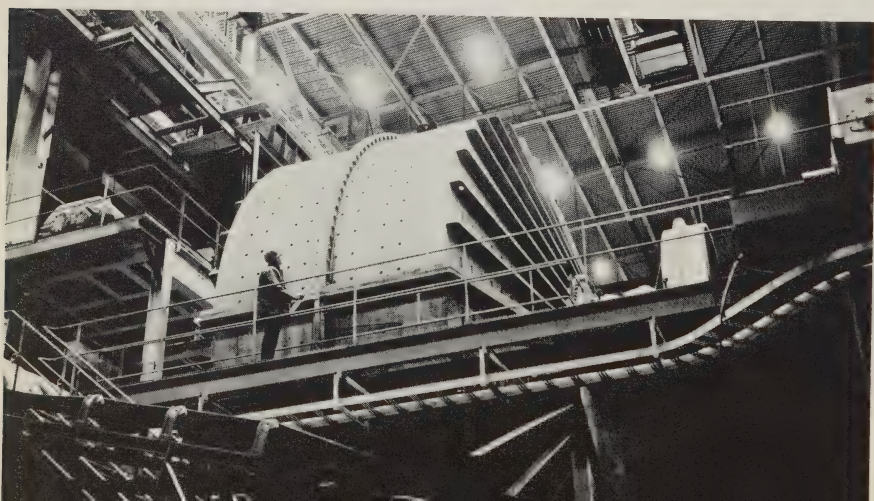
The mill of Anvil Mining Corporation at Faro, Yukon, concentrates the lead and zinc ore mined in the Anvil Range.

During the period 1961 to 1969 the value of elemental sulphur production rose from \$3 million to \$63 million. This increase is also in large part attributable to the growth in production of natural gas which is the major source of elemental sulphur in Canada. Nearly all sulphur is transformed into sulphuric acid of which one half is used in the manufacture of fertilizers.

Canadian potash production increased from less than \$1 million in 1960 to \$67 million in 1969 as a number of mines were opened in Saskatchewan between 1962 and 1969. The largest Canadian potash producer is the International Minerals and Chemical Corporation (Canada) Ltd. which operates two mines at Esterhazy, Sask. About 95 per cent of the world's potash is used as fertilizer.

Canada is second only to the United States among the producers of molybdenum. The value of production increased from \$1 million in 1960 to \$53 million in 1969. Over half of the Canadian production comes from two mines in British Columbia which are operated by Endako Mines Ltd., and British Columbia Molybdenum Ltd.

One of the Griffith Mine's two 32-foot diameter autogenous grinding mills at Bruce Lake, Ont. The iron ore is ground by tumbling against itself as the mills rotate.



## Canada's Mineral Production, by Kind, 1968 and 1969

	1968		1969 <sup>1</sup>	
	Quantity	Value in Dollars	Quantity	Value in Dollars
<b>Metallics</b>				
Antimony .....lb.	1,159,960	614,779	845,000	507,000
Bismuth .....lb.	648,232	2,457,594	720,698	3,260,199
Cadmium .....lb.	5,014,965	14,292,650	4,368,405	15,010,186
Calcium .....lb.	468,512	450,946	888,361	925,831
Cobalt .....lb.	4,029,549	8,687,652	3,203,947	6,921,780
Columbium (Cb <sub>2</sub> O <sub>5</sub> ) .....lb.	2,181,304	2,036,315	3,010,356	2,925,698
Copper .....lb.	1,266,625,187	607,944,415	1,116,455,909	574,193,275
Gold .....troy oz.	2,743,021	103,439,321	2,502,169	94,331,773
Indium .....troy oz.	..	..	..	..
Iron Ore .....ton	47,443,303	532,694,110	40,000,640	431,930,310
Iron, remelt .....ton	..	22,022,849	..	23,475,000
Lead .....lb.	680,350,911	91,439,162	630,063,880	95,391,671
Magnesium .....lb.	19,856,937	6,181,992	20,969,620	7,093,714
Mercury .....lb.	..	..	..	..
Molybdenum .....lb.	22,464,273	37,317,958	30,291,644	52,623,117
Nickel .....lb.	528,716,212	528,235,798	426,650,432	482,412,858
Platinum group .....troy oz.	485,891	46,199,718	266,100	26,449,000
Selenium .....lb.	635,510	3,082,223	710,618	4,375,563
Silver .....troy oz.	45,012,797	104,114,599	43,092,976	83,169,443
Tellurium .....lb.	70,991	458,602	103,777	671,588
Thorium (ThO <sub>2</sub> ) .....lb.	139,191	261,836	29,014	55,127
Tin .....lb.	358,191	497,885	268,000	493,120
Titanium ore .....ton	—	—	—	—
Tungsten (WO <sub>3</sub> ) .....lb.	..	..	..	..
Uranium (U <sub>3</sub> O <sub>8</sub> ) .....lb.	7,402,196	52,284,580	7,709,547	49,665,506
Yttrium (Y <sub>2</sub> O <sub>3</sub> ) .....lb.	113,330	936,067	86,127	675,549
Zinc .....lb.	2,318,784,367	326,948,596	2,392,581,968	364,390,237
Total metallics .....	...	2,492,599,647	...	2,320,947,545
<b>Non-metallics</b>				
Arsenious oxide .....lb.	689,004	48,527	700,000	50,000
Asbestos .....ton	1,595,951	185,024,662	1,596,450	196,759,000
Barite .....ton	138,059	1,262,687	141,392	1,419,568
Diatomite .....ton	521	17,159	487	11,340
Feldspar .....ton	10,620	243,678	11,743	309,123
Fluorspar .....ton	..	2,603,347	..	3,036,470
Gem stones .....lb.	55,015	114,670	45,000	107,500
Grindstone .....ton	—	—	—	—
Gypsum .....ton	5,926,940	11,825,382	6,871,971	13,433,102
Helium .....Mcf.	..	..	..	..
Iron oxides .....ton	—	—	—	—
Lithia .....lb.	—	—	—	—
Magnesitic dolomite, brucite .....ton	..	3,045,984	..	3,000,000
Mica .....lb.	—	—	—	—
Nepheline syenite .....ton	426,595	4,738,008	502,893	5,881,818

## Canada's Mineral Production, by Kind, 1968 and 1969 - concluded

	1968		1969 <sup>1</sup>	
	Quantity	Value in Dollars	Quantity	Value in Dollars
<b>Non-metallics - concluded</b>				
Nitrogen .....Mcf.	..	..	..	..
Peat moss .....ton	293,628	8,658,194	314,100	8,717,000
Potash, (K <sub>2</sub> O) .....ton	2,917,611	65,121,399	3,146,160	67,119,877
Pyrite, pyrrhotite .....ton	314,197	2,286,442	323,432	2,111,198
Quartz .....ton	2,554,565	5,703,746	2,263,594	5,853,623
Salt .....ton	4,864,324	31,170,092	4,247,170	29,424,420
Soapstone and talc <sup>2</sup> .....ton	80,589	1,080,654	81,427	1,191,213
Sodium sulphate .....ton	459,669	7,082,575	508,484	8,388,717
Sulphur, in smelter gas .....ton	666,370	8,915,202	550,804	8,221,795
Sulphur, elemental .....ton	2,580,746	79,963,600	2,984,937	62,986,315
Titanium dioxide, etc. ....ton	..	28,016,183	..	29,066,600
Total non-metallics .....	...	446,922,191	...	447,088,679
<b>Mineral fuels</b>				
Coal .....ton	10,980,850	53,935,893	10,635,098	52,038,954
Natural gas .....Mcf.	1,692,300,787	225,268,658	1,985,280,751	263,564,593
Nat. gas by-products .....bbl.	..	126,057,696	..	135,566,258
Petroleum, crude .....bbl.	379,396,276	937,287,616	407,498,677	1,010,230,132
Total fuels .....	...	1,342,549,863	...	1,461,399,937
<b>Structural materials</b>				
Clay products (brick, tile, etc.) .....	...	48,721,444	...	50,995,351
Cement .....ton	8,165,805	152,003,739	8,543,622	171,257,887
Lime .....ton	1,439,967	17,385,635	1,718,155	20,108,301
Sand and gravel .....ton	205,234,509	129,500,553	204,060,000	130,650,000
Stone .....ton	75,939,767	95,658,075	70,069,100	88,194,500
Total structural materials ...	...	443,269,446	...	461,206,039
<b>Grand total</b> .....	...	<b>4,725,341,147</b>	...	<b>4,690,642,200</b>

<sup>1</sup> Preliminary estimates.<sup>2</sup> Includes pyrophyllite.

.. Figures not available.

... Figures not appropriate or not applicable.

— Nil or zero.

## Canada's Mineral Production, by Class, 1960-69

Year	Metals	Non-metals	Fossil fuels	Structural materials	Total
Value in Millions of Dollars					
1960 .....	1,407	198	566	323	2,493
1961 .....	1,387	210	674	331	2,603
1962 .....	1,496	217	770	356	2,840
1963 .....	1,510	253	885	379	3,027
1964 .....	1,702	287	973	403	3,365
1965 .....	1,908	327	1,045	434	3,714
1966 .....	1,985	363	1,152	481	3,980
1967 .....	2,285	406	1,260	455	4,406
1968 .....	2,493	447	1,343	443	4,725
1969 <sup>1</sup> .....	2,321	447	1,461	461	4,691

<sup>1</sup> Preliminary estimates.





Iron ore is transformed into steel in the giant open-hearth furnaces of Steel Company of Canada Ltd., in Hamilton, Ont.

Canada's Mineral Production, by Province, 1967-69

Province	1967		1968		1969 <sup>1</sup>	
	Value in Dollars	Per cent	Value in Dollars	Per cent	Value in Dollars	Per cent
Newfoundland .....	266,365,149	6.0	309,711,994	6.6	239,093,692	5.1
Prince Edward Island ..	1,775,001	0.1	976,742	—	1,050,000	—
Nova Scotia .....	77,226,142	1.8	56,927,553	1.2	54,175,233	1.2
New Brunswick .....	90,440,172	2.1	88,451,436	1.9	98,393,595	2.1
Quebec .....	741,435,723	16.8	728,783,871	15.4	720,067,082	15.4
Ontario .....	1,194,548,906	27.1	1,355,628,670	28.7	1,214,456,935	25.9
Manitoba .....	184,678,564	4.2	209,625,533	4.4	245,595,701	5.2
Saskatchewan .....	361,824,119	8.2	357,173,719	7.6	347,652,483	7.4
Alberta .....	974,301,975	22.1	1,091,749,049	23.1	1,193,279,802	25.4
British Columbia .....	380,487,993	8.6	389,311,009	8.2	422,765,745	9.0
Yukon .....	14,990,529	0.3	21,365,555	0.5	37,655,800	0.8
N.W. Territories .....	118,282,610	2.7	115,636,016	2.4	116,456,132	2.5
Totals .....	4,406,356,883	100.0	4,725,341,147	100.0	4,690,642,200	100.0

<sup>1</sup> Preliminary estimates.



The Kaiser open pit coal mine in the mountains at Natal, B.C. Much of this coal is being shipped to Japan.

## Coal

The contraction of coal's traditional markets continued in 1969 as other fuels, particularly natural gas and refined petroleum products, were increasingly used for heating and motive power. However, contracts for the export of coking coal to Japan and increased demands for coal at thermal power plants are expected to more than offset this decline, and to re-vitalize the industry.

If one examines the situation by regions one finds that in eastern Canada rising costs, reduced government financial aid, and competition from coal imported from the United States all contribute to a declining production in the Nova Scotia and New Brunswick fields. In Alberta and Saskatchewan low-cost, open-pit sub-bituminous, and lignite mines are expected to continue to supply an increasing amount of coal to thermal electric installations, as the development of the few remaining hydro sites cannot by itself meet the growing demand for electrical energy. The second major impetus to the growth of the coal mining industry in western Canada is the Japanese steel industry's increasing needs for high-grade coking coal. Long-term

contracts signed within the last few years call for some 175 million tons to be delivered over the next 15 years. To ensure a constant supply it has been necessary to invest heavily in equipment at the various mine sites in western Alberta and southeastern British Columbia, in transportation facilities between the mines and the port, and in deep-sea terminals capable of handling the tonnages involved. Whereas recent exports to Japan have been slightly over 1 million tons a year, the next few years should see an increase to some 12 million tons annually.

### Production of Coal, by Province, 1968 and 1969

	1968	1969
	Short Tons	
Nova Scotia .....	3,131,745	2,621,330
New Brunswick .....	797,359	701,952
Saskatchewan .....	2,250,219	2,020,105
Alberta .....	3,920,120	4,426,060
British Columbia .....	889,564	902,432
<b>Total Canada .....</b>	<b>10,989,007</b>	<b>10,671,879</b>

Canadian production of coal in 1969 decreased to 10.7 million tons, 2.9 per cent or 317,000 tons less than that for 1968. Excluding subvention payments, the value of this production amounted to approximately \$51 million, less than the 1968 value of \$54 million. Imports, 90 per cent of which go to steel mills and thermal-electric generating plants in Ontario, reached 17,300,000 tons, while exports amounted to 1,400,000 tons.

### Petroleum and Natural Gas

The petroleum industry is Canada's leading mineral producer: it extracted and refined about \$1,409,361,000 worth of hydrocarbon products in 1969, an increase of 9.4 per cent over 1968. Crude oil, Canada's most important mineral, contributed \$1,010,230,000 (407,498,677 barrels) to this total. Natural gas production accounted for \$263,565,000 (1,985,280 million cubic feet) and pentanes, propane, and butanes for \$135,566,000 (66,107,000 barrels). In addition, elemental sulphur as a by-product of gas plants was valued at \$88,881,000 (for 4,258,000 short tons), and sulphur extracted from Canadian crude oil at refineries amounted to \$1,346,000 (42,000 short tons). Alberta accounted for 76.6 per cent of all production; Saskatchewan, 15 per cent; British Columbia, 6.7 per cent; and all the other provinces, 1.7 per cent.

Production of all commodities increased in 1969. The production of synthetic crude more than doubled and that of natural gas increased 17 per cent. Canada exports large quantities of natural gas and crude petroleum to the United States, which is normally its market. In 1969 natural gas exports amounted to 669,815,767 Mcf. (thousand cubic feet) with a value of \$176,188,000. This was an increase of 10.3 per cent over exports in 1968, and the demand in the United States for natural gas continues to grow. Canada exported 197,340,741 barrels of crude oil valued at \$525,780,000 in 1969, an increase of 17.8 per cent over the figure for 1968. Imports





Near Inuvik, N.W.T., a dozen companies, through the Mackenzie Valley Pipe Line Research, Limited, are investigating the effect on the delicate environment of constructing and operating pipelines in the North.

amounted to 190,473,147 barrels, but Canada became a net exporter for the first time in 1968. Refineries located east of the "energy line" (a line running from Pembroke south to Brockville, Ont.) operate on imported crude oil. This is supplied mainly by Venezuela, but some comes from the Middle East and Africa. Canadian crude, mostly from Western Canada, is used west of the energy line. New American legislation to put a quota on imports of Canadian crude will considerably restrict Canadian exports in 1970.

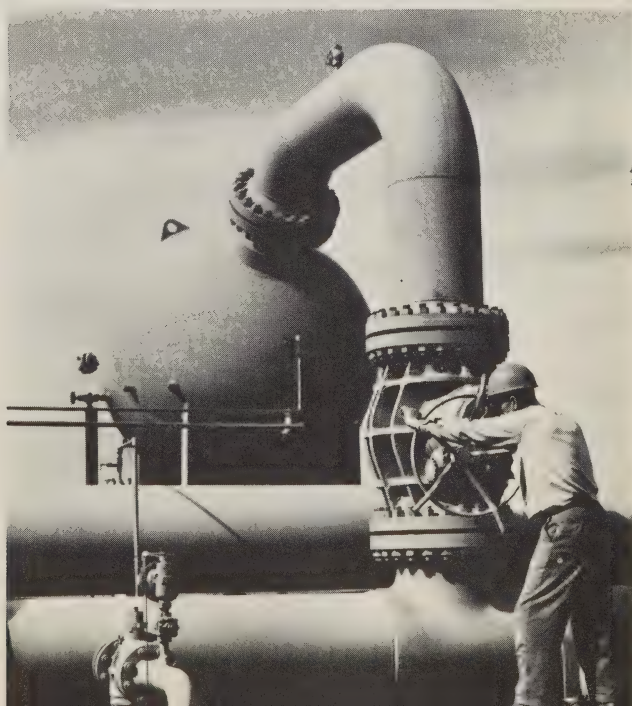
Total sales of refined petroleum products were 479,616,038 barrels in 1969, comprising 158,651,619 barrels of gasoline, 159,628,034 barrels of middle distillates, 103,387,662 barrels of heavy fuel oils, and 57,948,723 barrels of lubricating oils and grease, asphalt, and other products.

The movement of oil and natural gas necessitates large pipeline systems to carry these products to many parts of the continent. Consequently oil and gas pipelines have become a major form of transportation. In 1969 the transportation of crude oil and its equivalent, liquefied petroleum gases, and refined petroleum products amounted to 320,000 million pipeline barrel miles; and that of natural gas to 1,125,000 million cubic feet miles, an increase of 20.5 per cent in a year. This increase was a direct result of the heightened demand for natural gas.

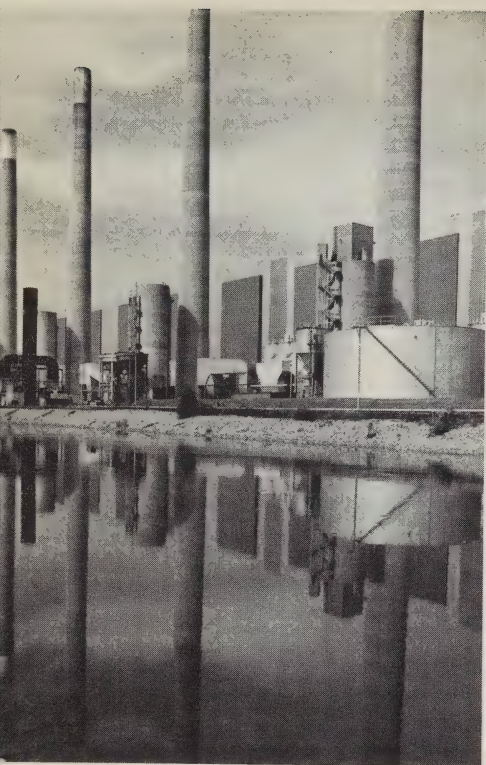
In 1969 the total operating and capital expenditures of the petroleum industry amounted to \$1,287,785,000. The industry has made great efforts to find new reserves and increase its production of hydrocarbon products since 1961, when its investment was only \$716,158,000. In 1969 geological and geophysical work accounted for \$151,077,000 of the total; \$225,767,000 was spent on acquiring land or leases; \$236,295,000 on exploratory and development drilling; \$203,234,000 on capital additions; \$207,149,000 on field, well, and natural-gas plant operations; and \$264,263,000 on royalties, taxes, and other miscellaneous expenditures. Seventy-four per cent of all expenditure, amounting to \$950,089,000 was in Alberta, 11 per cent in Saskatchewan, and 8 per cent in British Columbia.

There has been an enormous increase of geological and geophysical exploration in the Northwest Territories, in the Arctic Islands, and off the coasts of Canada in recent years. Panarctic Oil, a joint venture of the federal government and private investors, has had gas showings on Melville Island, and Imperial Oil has discovered oil in the Mackenzie Delta. As a result, many companies that have large holdings in these areas have increased their exploratory work. Seismic, geological, and geophysical surveys have indicated that the potential Canadian conventional oil reserves are 120,800 million barrels, including 25,000 million off the east coast. The Athabasca tar sands have an estimated 300,000 million barrels of synthetic crude oil recoverable by mining or thermal processes. Operators in the tar sands seem to have solved many of the technical problems that originally plagued them.

In these huge pipes oil is used to remove foreign material from natural gas.







Large and small power plants: Ontario's Lakeview Generating Station with an installed capacity of 2,400,000 kw. and a small hydro plant on the Lequille River in Nova Scotia.

## Electricity

Canada's electrical power development has grown steadily at a remarkable rate since the beginning of this century. A modest 133,000 kilowatts of generating capacity in 1900 had increased to some 39,500,000 kw. by the end of 1969.

Although water power traditionally has been the main source of electrical energy in Canada and still is, thermal sources are becoming more important and this trend is expected to continue. The choice between the development of a hydro-electric power site and the construction of a thermal generating station must take into account a number of complex considerations, the most important of which are economic. The heavy capital costs involved in constructing a hydro-electric project are offset by maintenance and operating costs considerably lower than those for a thermal plant. The long life of a hydro plant and its dependability and flexibility in meeting varying loads are added advantages. Also important is the fact that water is a renewable resource. The thermal station, on the other hand, can be located close to areas where power is needed, with a consequent saving in transmission



costs. However pollution problems at these plants are coming to be recognized as a complicating factor.

The marked trend towards the development of thermal stations that became apparent in the 1950's can be explained in part by the fact that in many parts of Canada, most of the hydro-electric sites within economic transmission distance of load centres had been developed by then, and planners had to turn to other sources of electrical energy. More recently, however, advances in extra-high-voltage transmission techniques have given impetus to the development of hydro power sites previously considered too remote. Nevertheless, in the long run thermal stations should be the more important of the two sources.

**Water Power Resources and Developments.** Substantial amounts of water power have been developed in all provinces except *Prince Edward Island*, where there are no large streams. The resources of *Newfoundland* are estimated to be considerable; topography and run-off favour hydro-electric power development. A large part of the installed capacity serves the pulp and paper industry. The water power of *Nova Scotia* and *New Brunswick*, small in comparison with that of other provinces, is nonetheless a valuable source of energy. The numerous moderate-sized rivers provide power for the cities and a potential source of power for developing the timber and mineral resources. *Quebec* is richest in water power resources, with over 40 per cent of the total for Canada, and has the most developed capacity. The largest single hydro-electric installation in Canada is *Hydro-Québec's* 1,574,260 kw. *Beauharnois* development on the *St. Lawrence River*. Others are the *Bersimis 1* development, with a capacity of 912,000 kw., and the 742,500 kw. *Chute des PASSES* plant of the *Aluminum Company of Canada, Ltd.* Potentially largest will be *Hydro-Québec's* *Manicouagan-Outardes* project, to produce 5,800,000 kw. on the two rivers. Almost all of the sizable water power potential in *Ontario* within easy reach of demand centres has been developed, and planners are looking to more remote sites. Most of the hydro-electric power produced in the province comes from the *Hydro-Electric Power Commission of Ontario*, the largest public utility in Canada. Its chief stations are on the *Niagara River* at *Queenston*, with total generating capacities of 1,804,200 kw. *Manitoba* is the most generously endowed of the *Prairie Provinces*, with immense potential on the *Winnipeg*, *Churchill*, *Nelson*, and *Saskatchewan Rivers*. *Saskatchewan's* central and northern parts can eventually be supplied from the *Churchill*, *Fond du Lac*, and *Saskatchewan Rivers*. In *Alberta*, most of the developments are located on the *Bow River* and its tributaries. *British Columbia* ranks second in terms of potential water power resources, and is third in installed generating capacity. The current development of the *Peace* and *Columbia Rivers* will provide immense power resources in the future. In the *Yukon Territory* and the *Northwest Territories*, water power is of special importance in the development of mining areas, such as *Mayo* and *Yellowknife*. In the *Yukon*, most resources are on the *Yukon River* and its tributaries. Although not yet thoroughly surveyed, the rivers flowing into *Great Slave Lake*, and

the South Nahanni River draining into the Mackenzie River have considerable potential.

**Conventional Thermal Power.** Over 89 per cent of all conventional thermal power generating equipment in Canada is driven by steam turbines and the remainder of the load is carried by gas turbine and internal combustion equipment. The accompanying Table shows that Prince Edward Island, Nova Scotia, New Brunswick, Saskatchewan, Alberta, and the Northwest Territories depend on thermal stations for most of their power requirements. Although at present Ontario has more hydro than thermal capacity, by the early 1970's the situation will be reversed. The abundance of Quebec's wealth of water power has so far limited the application of thermal power in that province to local use but here too there is growing emphasis on thermal development. Manitoba and British Columbia both have substantial amounts of thermal capacity but current development is still of hydro electricity.

The new Arrow dam on the Columbia River at Castlegar is one of the major facilities constructed by Canada under the provisions of the Columbia River Treaty.





### Installed Hydro- and Thermal-Electric Generating Capacity, at December 31, 1969

Province or Territory	Hydro	Thermal	Total
	Thousands of kilowatts		
Newfoundland .....	825	123	948
Prince Edward Island .....	—	77	77
Nova Scotia .....	220	769	989
New Brunswick .....	570	632	1,202
Quebec .....	12,476	756	13,232
Ontario .....	6,584	5,893	12,477
Manitoba .....	1,217	369	1,586
Saskatchewan .....	567	836	1,403
Alberta .....	616	1,583	2,199
British Columbia .....	3,849	1,467	5,316
Yukon Territory .....	21	20	41
Northwest Territories .....	35	37	72
<b>Canada .....</b>	<b>26,980</b>	<b>12,562</b>	<b>39,542</b>

**Nuclear Thermal Power.** Development of commercial electric power generation in thermal plants using the heat generated by nuclear reactors is one of the major contributions of Canada to energy resource technology. This development has centred around the CANDU reactor which uses a natural uranium fuel with a heavy water moderator. Heavy water as a moderator provides a high energy yield and facilitates the handling of spent fuel. The first experimental reactor went into use in 1962 at Rolphton, Ont., with a capacity of 20,000 kw. Since then, four major nuclear projects have been undertaken. The first nuclear plant is situated at Douglas Point on Lake Huron. It consists of a single unit, completed in 1967, with a capacity of 220,000 kw. The second project is a four-unit 2,000,000-kw. capacity plant being built at Pickering east of Toronto. Its four units are scheduled for service in 1971 to 1973. Both the Douglas Point and Pickering plants use heavy water as a coolant. The third nuclear plant is to be a 250,000-kw. unit situated at Pointe aux Roches, Que., using boiling light water as a coolant. The fourth plant is the 3,000,000-kw. Bruce Station at Douglas Point, Ont., scheduled for completion in 1976.

### Atomic Energy of Canada Limited

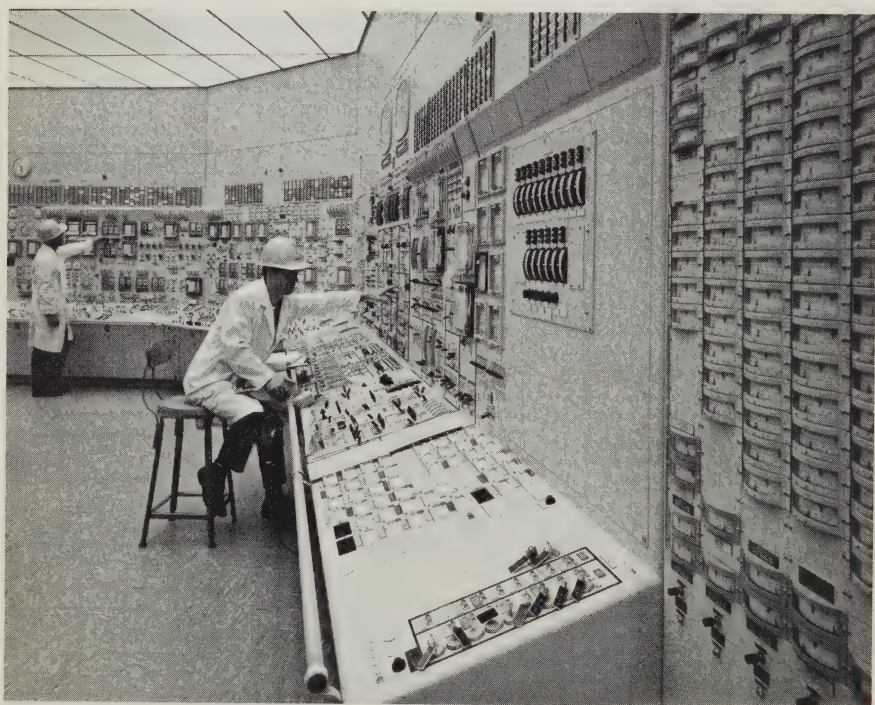
While the major application of the Canadian nuclear program is in Ontario, other plants are being built in Quebec and in foreign countries. On the south shore of the St. Lawrence River, midway between Montreal and Quebec City, is the Gentilly Nuclear Power Station, built by Atomic Energy of Canada Limited with the co-operation of Hydro-Québec. India's Department of Atomic Energy is building the Rajasthan Atomic Power Project, a nuclear station of Canadian design with two reactors and a total electrical output of 400,000 kw. The nuclear portion of this plant, which is similar to the Douglas Point Nuclear Power Station on the shore of Lake Huron, was designed by Atomic Energy of Canada Limited. Near Karachi in West



Pakistan, Canadian General Electric Company Limited has built the Karachi Nuclear Power Project for the Pakistan Atomic Energy Commission. The station has an electrical capacity of 137,000 kw.

There are now three plants to produce heavy water under construction in Canada — two in Nova Scotia and one in Ontario. Canadian-type nuclear power stations use heavy water to moderate the speed of neutrons released when atoms of the natural uranium fuel split or fission. A chain reaction is maintained in the power reactors and thus there is a steady production of heat which is used to produce the steam that drives turbine-generators. With this natural uranium-heavy water system, Canada is able to use its uranium deposits, which are among the largest in the world. The system is attractive to foreign countries as well, for nuclear power stations may be fuelled with naturally occurring uranium and it is not necessary to build expensive fuel-enrichment plants.

The central control room at the Douglas Point nuclear power station. Here operators control the power plant, including fuelling machines, which work at the reactor face. TV monitors above the controls enable operators to watch the fuelling machines perform.



From a pioneering cancer therapy unit put into service in 1951, Canada's development of the production and application of radioactive isotopes has reached into most parts of the world. The Commercial Products group of Atomic Energy of Canada Limited, which has facilities in Ottawa and nearby South March, has designed and built more than 850 cancer therapy machines which are installed in clinics in 59 countries.

Another major activity of the group is the design, manufacture, and installation of industrial-scale plants for the sterilization of medical supplies with gamma radiation from cobalt-60. Canadian plants have been put into operation in the United States, Canada, West Germany, New Zealand, India, Denmark, and Italy. Medical products such as syringes, sutures, swabs, and surgical gloves can be packed in boxes before sterilization and almost any packing material can be used; thus the production of sterilized materials can be carried out quickly and cheaply and complex arrangements to avoid contamination are not necessary.

AECL has a broad program of research on the use of radiation in food preservation, mineral analysis, control of industrial processes, and many other fields.

Canada's main nuclear research centre is the Chalk River Nuclear Laboratories, 125 miles northwest of Ottawa. The centre has about 2,500 employees and a wide variety of facilities including the large NRX and NRU research reactors, three small auxiliary reactors, a tandem Van der Graaff accelerator, and engineering and research laboratories.

A broad program of engineering development and research is carried out at Canada's newest nuclear laboratories, the Whiteshell Nuclear Research Establishment at Pinawa, Man. The centre has 700 employees and its work is mainly directed at developing new materials for use in power reactors with the objectives of increasing the efficiency of the plants and of reducing the cost of the power produced.

The Power Projects group of AECL employs 800 persons at its laboratory building and design and administration centre in the Sheridan Park Research Community near Toronto, and in Peterborough. This group is responsible for the design of nuclear power systems and for the management of prototype nuclear power stations.

**Power Generation and Utilization.** In 1969, Canada's generating facilities produced 190,273 million kilowatt hours of electric energy, 78 per cent in hydro-electric stations and the rest in thermal stations. Energy exported to the United States exceeded by 1,364 million kwh. the energy imported, bringing the total available to Canadian users to 188,909 million kwh.

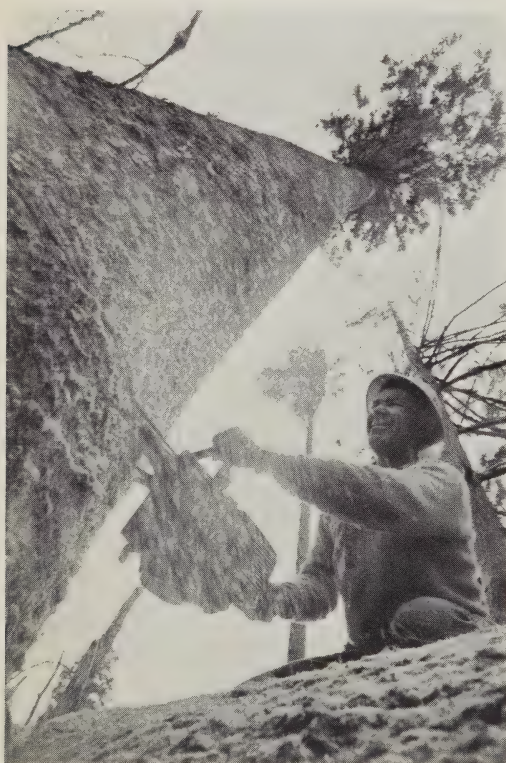
In 1968 industry used about 58 per cent of the total energy available in Canada; homes and farms accounted for 21 per cent, and commercial customers for 11 per cent. Average domestic and farm consumption continues to rise year by year. In 1968 it was 6,571 kwh., ranging from a low of 3,305 kwh. in Prince Edward Island to a high of 8,062 kwh. in Manitoba. The average annual bill for electricity was \$97.52; for farm customers, who consumed 9,155 kwh., it was \$156.26.

# Forestry

## Forest Management

From 1965 to the end of this century, it has been predicted that the demand on Canada's forests for fibre, lumber, and plywood will quadruple. This is an attractive prospect indeed for marketers, but such an increase in demand could very well exceed the allowable annual cut of timber. To offset this possibility, the need for appropriate management and use of timber resources, based on adequate research, is clearly recognized and accepted. In addition, Canada's growing population is increasingly looking to the forests to safeguard water quality, maintain a habitat for wildlife, and provide for sport and recreation. The mounting pressure is producing a type of management that is no longer exclusively concerned with the production of wood.

The one-million-square-mile Canada Land Inventory survey started in 1963 by the federal government is now providing land capability data for the settled regions of Canada and the areas adjacent to them. Included in this



Loggers develop skills in cutting trees to fall clear in the forest.



work is the mapping of land suitable for agriculture, forestry, wildlife production, and recreation. The inventory is providing information that is basic to effective planning for the integrated management of natural resources.

In recognizing the need for knowledge of the type and extent of forest resources as a prerequisite to efficient forest management, most provinces have now taken forest inventories and are continually improving them as new data come to hand. Through a special 8-year agreement between Canada and Newfoundland, a forest inventory of Labrador is now being prepared. In this work, inventory on the ground has largely been replaced by large-scale aerial photography. From a study of sample plots set out on the photographs, tree species can be identified and the volume of individual trees precisely estimated.

Realization of the need for greater wood supplies has led, in recent years, to substantial increases in planting and seeding of trees on cut-over and burned-over forestland and abandoned farmland. More and more aerial seeding is being employed and tree seedlings growing in various types of small tubes or containers are being planted. This technique permits many tree species to be planted throughout the summer months and also reduces the cost of raising and planting nursery stock.

The mechanical feller-buncher with its giant shears literally clips off trees.



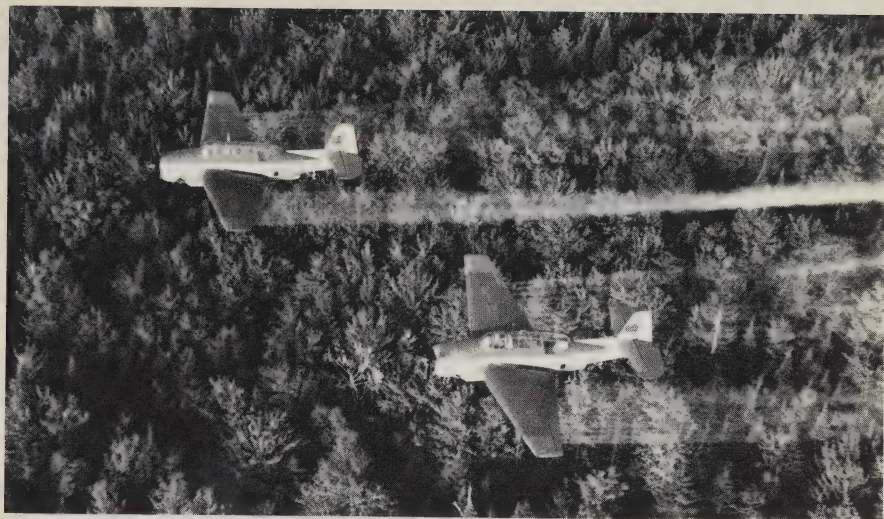
The forest manager is increasingly using aircraft in the fight against fire, insects, and disease. Aircraft now carry infra-red fire detectors. Aerial colour photography can be used to detect the onslaught of pests, often before it is apparent from the ground, and insecticides can be applied from aircraft to control potentially devastating attacks by insects on the forest. Float planes carrying water in their pontoons, amphibians and other fixed-wing aircraft with internal tanks, and helicopters with suspended water buckets are all in use in Canada for fighting forest fires. Two recent advances in the field of aerial fire-fighting are the production by a Montreal-based firm of the first aircraft ever designed specifically for use as a water bomber, and the development by a Toronto company of the membrane tank system. In this system a water bomber's tank doors are replaced with a fabric membrane to support the usual mixture of water and chemical retardants. Over a fire target, the fabric is rapidly cut and the load drops like a rectangular box-shaped missile. The delivery of this more compact load, rather than the dispersed cloud of liquid characteristically released from conventional tanks, results in greatly improved fire-fighting efficiency.

The mechanized tools available to forest industry operators who implement governmental management policies are increasing in number and versatility. Multiple-function machines now carry out logging operations such

Canadian International Paper Co.'s pine tree nursery supplies 1,200,000 trees each year to reforest the Rouge Valley in Quebec.







Avenger aircraft spray insecticide to control an infestation of spruce budworm in New Brunswick.

as felling, bunching, and skidding; others cope with certain aspects of processing such as delimbing within the forest, and debarking and chipping at the roadside. Some of these machines are available commercially while others are still in the experimental stage.

**Research.** To support and guide the management and utilization of its extensive forest resources, Canada has a comprehensive forest research program. About two fifths of the research work is conducted by the federal government within the Canadian Forestry Service of the Department of Fisheries and Forestry. For the purpose of dealing with local and regional forestry problems the Canadian Forestry Service maintains research laboratories in each of six regions which together cover the forested area of Canada. In addition, the Service has nine research institutes, including two forest products laboratories, which carry out research studies on problems that are more national in character. The four broad research objectives of the Service are: to improve forest protection, to utilize wood effectively, to improve forest management and reforestation, and finally, to improve the competitive position of Canada's forest industries.

Besides the federal forest research program, the Provinces of Quebec, Ontario, and British Columbia maintain forest research organizations which are concerned mainly with solving problems related to fire protection, silviculture, soils, mensuration, and tree improvement; they rely upon the federal program for most studies in entomology, pathology, and forest products.

Within industry, the pulp and paper companies make the largest research contributions. Most of these companies conduct research into pulping and paper technology and most are also sustaining members of the Pulp and



Paper Research Institute of Canada, in Montreal. This Institute has large research programs in pulping and paper technology and lesser commitments to research in logging and silviculture. Lumber and plywood companies depend mainly on the federal forest products laboratories to meet their research needs.

Further research in forestry and allied fields is conducted at Canadian universities. Forestry faculties are located at the University of British Columbia, Vancouver; the University of Toronto, Toronto; Laval University, Quebec City; and the University of New Brunswick, Fredericton. In co-operation with the Pulp and Paper Research Institute, McGill University, Montreal, trains post-graduate students in fields of interest to the pulp and paper industry.

## Forest Industries

This group of industries accounted for approximately 20 per cent of all Canadian exports in 1968. It includes logging; the primary wood and paper manufacturing industries, using roundwood as their principal raw material; and the secondary wood and paper industries, using lumber, wood pulp, basic paper, and so on, as their principal raw materials for further manufacturing into a host of different wood and paper products.

**Logging.** The degree of mechanization of logging operations in Eastern Canada continues to increase rapidly. Several highly sophisticated wood harvesting and processing machines have been developed which permit almost year-round operations and have reduced manpower requirements considerably. Some of the eastern logging systems and machines are now being introduced in the interior of British Columbia, where the logging conditions in some areas are similar. The rapid expansion of the pulp and paper industry in British Columbia, coupled with changes in regulations and stumpage rates introduced by the Forest Service of B.C., has led to a marked improvement in the use of forest resources in that province.

The output of Canada's forests in 1967, in the form of sawlogs, veneer logs, bolts, pulpwood, fuelwood, poles, and so on, and other primary forest products, amounted to an estimated 3,800,000,000 cubic feet of wood. Most of the wood for industrial purposes was processed to some degree in Canada. A small percentage was exported without further processing.

**Wood Industries: Sawmills and Planing Mills.** This industry is particularly dependent upon the general economic condition of the country and on the state of foreign markets, particularly the American market. The year 1969 was unusual: it began with high lumber prices which continued to rise steeply in the first few months only to drop even more sharply during spring and early summer to levels below those at the beginning of the upswing in 1968. The unsettling effects of such swings are particularly serious in British Columbia because of the importance to that province of the sawmill industry and its dependence on export markets. The lumber production in Canada amounted to approximately 11,480 million board feet in 1969, a slight increase over the 1968 figure of approximately 11,260 million board feet.



Canada's major western port is Vancouver, from which lumber is shipped to all parts of the world.

However, due to the unsettled market conditions shipments were lower and a considerable increase in inventories occurred. As usual British Columbia accounted for some two thirds of the total, followed by Quebec and Ontario (15 and 7.5 per cent respectively).

The sawmill industry is one of the oldest industries in Canada and some feel that it is not keeping up with the times, thus losing ground to substitute materials. During the last several years significant improvements have been made in productivity, in the quality of products, and in the reduction of wood waste. Most medium-sized and large sawmills now convert slabs and edgings to wood chips for sale to pulpmills instead of burning them. The long-term trend towards an increase in size of individual mills and a reduction in their number has accelerated, particularly in British Columbia.

The sawmill and planing mill industry provided 47,463 man-years of employment in 1967, paying \$240,460,000 in salaries and wages. The total value of shipments of their products amounted to \$959,782,000 of which lumber accounted for \$803,262,000. The value of exports of lumber in that year amounted to \$509,239,000 (\$652,696,000 in 1968).



**Other Wood Industries.** This group includes the shingle mills, veneer and plywood mills and particle board plants which, like the sawmills and pulp and paper mills, are primary wood industries. It also includes the secondary wood industries which further manufacture lumber, plywood, and so on, into flooring, doors, sashes, laminated structures, prefabricated buildings, boxes, barrels, caskets, and woodenware.

In 1967 these industries provided 42,410 man-years of employment, paying \$210,732,000 in salaries and wages. The value of shipments of their products was \$715,860,000. Of this amount the veneer and plywood industry accounted for \$255,661,000 and the sash, door and millwork industry (including hardwood flooring) for \$277,607,000.

**Pulp and Paper.** The manufacture of pulp and paper has been Canada's leading industry for many years. Though it is not growing as fast as some other manufacturing industries in Canada it still ranks first in employment, salaries and wages paid; and in value added by manufacture. The gross selling value of production of this one industry accounts for almost 4 per cent of the total gross national product and it contributed 13.1 per cent of the total value of domestic exports in 1968 (14.5 per cent in 1967, 15.8 per cent in 1966). Canada is the second largest producer (15,648,000 tons in 1967) of wood pulp in the world after the United States (35,954,000 tons) and the largest exporter. It is by far the largest producer of newsprint, with 8,051,000 tons in 1967 which is more than 40 per cent of the world total.

Although the pulp and paper industry is primarily engaged in the manufacture of wood pulps and basic papers and paperboards it also produces converted papers and paperboards and even chemicals, alcohol, and other by-products. Approximately 73 per cent of the wood pulp manufactured in 1967 was converted in Canada to other products, particularly newsprint. The remainder was exported.

The Province of Quebec has the largest share in Canada's pulp and paper industry, accounting for 37.5 per cent of the total value of factory shipments in 1967. It is followed by Ontario with 27.3 per cent and British Columbia with 21.6 per cent. The share of British Columbia has been climbing rapidly in recent years owing to the establishment of a number of kraft pulp and paper mills, particularly in the interior. In eastern Canada also the kraft sector of the pulp and paper industry has grown most rapidly.

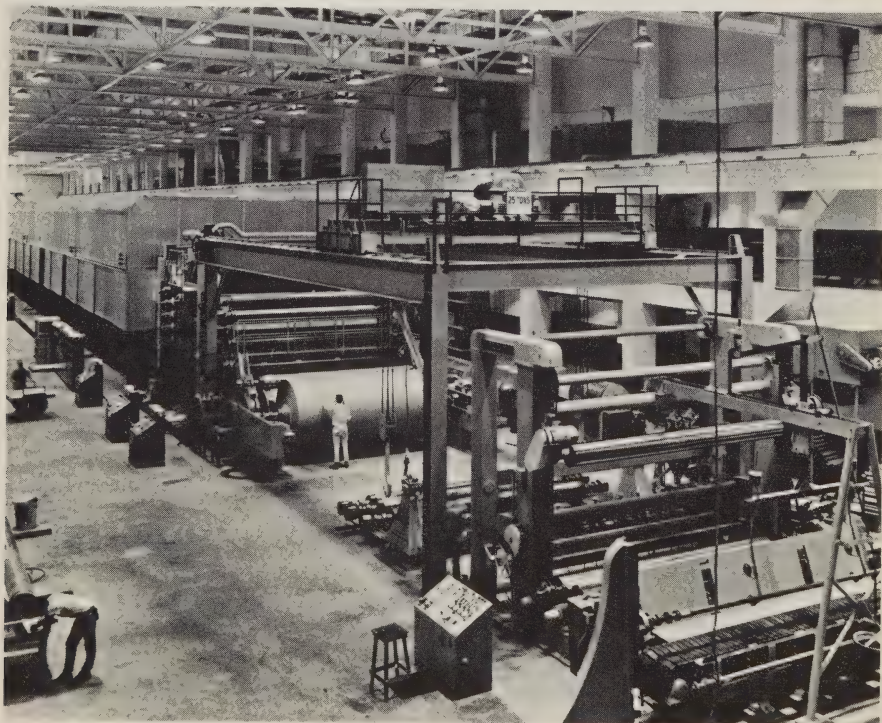
**Paper-converting Industries.** These include the asphalt roofing manufacturers, the paper box and bag manufacturers, and other paper converters. In 1967 this group counted 497 establishments (489 in 1966), employed 44,626 persons (37,893 in 1966) and paid \$265,161,000 in salaries and wages (\$192,432,000 in 1966). The value of factory shipments set a new record of \$930,132,000 (\$868,002,000 in 1966). In contrast to the basic pulp and paper industry the paper converting industries are primarily dependent on the domestic market.



**Principal Statistics of the Pulp and Paper Industry,  
1963, 1965, and 1967**

Item		1963	1965	1967
Establishments .....	No.	126	132	136
Employees .....	No.	65,040	69,897	73,983
Salaries and wages .....	\$'000	364,513	423,732	516,724
Value of shipments of goods of own manufacture .....	\$'000	1,793,231	2,104,425	2,301,044
Value added — manufacturing activity ..	\$'000	914,258	1,033,532	1,052,085
Pulp shipped .....	'000 tons	4,023	4,650	5,150
	\$'000	479,040	592,238	630,604
Paper and paperboard shipped .....	'000 tons	8,825	10,327	10,963
	\$'000	1,210,914	1,389,910	1,542,726
Newsprint exported .....	'000 tons	6,211	7,190	7,464
	\$'000	759,990	869,586	955,261

A kraft specialty machine at Crown Zellerbach's Elk Falls plant can produce stretchable paper, useful for packaging fertilizer and cement.



## Fisheries

Canada's commercial fisheries produce a bountiful variety of fish and shellfish for home and world markets. Harvesting ocean and inland waters unusually rich in aquatic life, the nation's fishing industry ranks among the world's major producers of fishery products for consumers. In value terms, Canada consistently places among the world's top three fish exporting nations. In total production, Canada is among the dozen or so countries that harvest more than one million metric tons of fish annually.

Output of Canada's fisheries increased substantially during the 1960's, a period of transition highlighted by innovations in fishing techniques, expanded fisheries for herring and groundfish, and the cropping of promising new commercial species, notably crab and shrimp. The marketed value of all Canadian production soared in this period from \$199 million in 1960 to \$385 million in 1968.

The dawning 1970's, despite a fractional decline in 1969 output, disclose new and expanded horizons for the Canadian fisheries, provided that problems of resource supply and quality can be successfully solved. Chief among the hazards threatening the continued growth of the national fisheries are over-exploitation by domestic and international fishermen, and pollution.

In 1969, Canada's fisheries returned, after a seven-year succession of production gains, to the levels established in 1967. Improved landings of halibut on the Pacific Coast, and lobster and flatfish on the Atlantic Coast were not sufficient to compensate for the lower catches of Pacific salmon and of east coast herring, scallop, and some groundfish species.

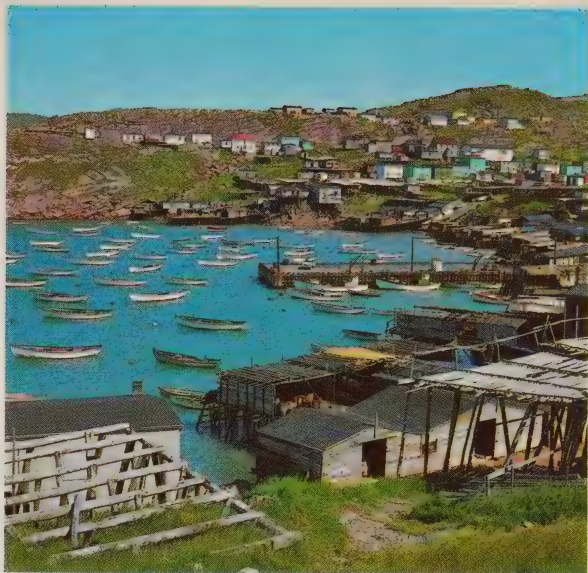
The catch of groundfish, at 1,215 million pounds, remained the major component of Atlantic Coast landings. Cod and haddock decreased in relative importance to 45 and 7 per cent respectively of the Atlantic catch, while increased landings of flatfish made up 26 per cent of all groundfish taken. Some 550 million pounds of groundfish — less than 50 per cent of the total — were landed by vessels over 70 feet in length.

Herring is by far the most prolific species among the 150 caught by Canadian fishermen. Landings at the Atlantic Coast plants in 1969 totalled 1,073 million pounds, valued at \$11 million. These catches were accounted for mainly by New Brunswick (34 per cent), Newfoundland (24 per cent) and Nova Scotia (20 per cent). About 80 per cent of the herring landed is used to produce fish meal for animal feeds.

The continued Pacific Coast ban on herring fishing for reduction purposes, a necessary conservation measure, resulted in a catch on that coast of merely 4 million pounds valued at \$200,000. The average annual catch during the years 1960-68 amounted to 337 million pounds.

Three species dominate the Canadian fisheries market, as the 1969 returns indicate: Atlantic lobster, with a value to fishermen of \$29 million, Pacific salmon, \$28 million, and Atlantic cod, \$22 million. Other important individual

Fishing dories in the harbour at Bay de Verde, Bonavista Bay, Nfld.



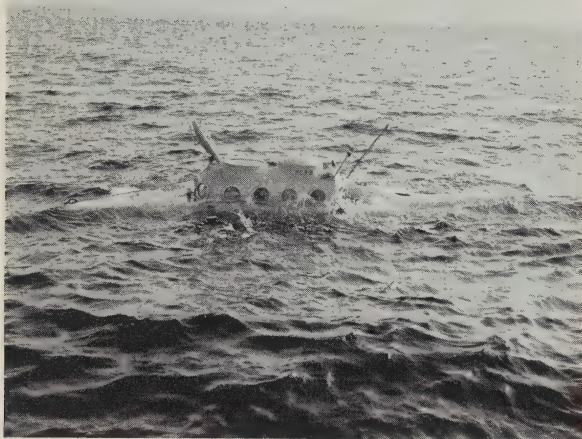
species are Pacific halibut, \$12 million, Atlantic scallops, \$12 million, and Atlantic herring, \$11 million.

The total marketed value of Canadian fishery products in 1969 is estimated to have reached \$360 million. Exports accounted for close to \$278 million, a \$20-million increase over the year before. Two thirds of Canadian fishery exports were destined for the United States, about 22 per cent for Europe, and 7 per cent for the Caribbean. Freshwater fisheries exports for 1969 were estimated at 51 million pounds. Sixty per cent of this production is exported round or dressed, while the balance is exported as fillets or blocks.

Legislative action was initiated in 1969 to consolidate and rationalize two troubled sectors of the Canadian fishing industry. Following passage of legislation by Parliament, the Freshwater Fish Marketing Corporation was established May 1, 1969, to provide orderly production and marketing of freshwater fish produced in the Prairie Provinces, northwestern Ontario, and the Northwest Territories. In December 1969, a Bill was introduced in the House of Commons providing for the creation of the Canadian Salt Fish Corporation, to undertake a similar role in the production and marketing of salted and other cured fish in most areas of the Atlantic Coast.

Additional legislative measures for parliamentary action in 1970 included amendments to the Territorial Sea and Fishing Zones Act to establish "fisheries closing lines" to reserve areas such as the Gulf of St. Lawrence, the Bay of Fundy, and Queen Charlotte Sound as areas in which Canada may assume exclusive responsibility for management of fish stocks. Exclusive fishing zones based upon the twelve-mile limit were established in 1969 along sections of the Atlantic and Pacific Coasts. Amendments were also proposed to the Fisheries Act to strengthen the federal government's hand in efforts to prevent and control pollution hazards to fish.





The Fisheries Research Board is using a submarine to investigate how scallops are placed on the ocean floor, what bait queen crab prefer, and how East Coast herring spawn.

### THE FISHERIES RESEARCH BOARD OF CANADA

Ancillary to the management and development function of the federal Department of Fisheries and Forestry is the Fisheries Research Board of Canada, the oldest government-supported independent scientific Board in North America. It is the lineal descendant of a government research organization founded in 1898 and dedicated "to conducting basic and applied research of Canada's living aquatic resources, their environment and their utilization."

One of the major current commitments of the Board is to extensive research in the field of water pollution. The centre of the Board's activity in this field is the Freshwater Institute in Winnipeg, where data from many of the Board's laboratories in other parts of the country are collated. In conjunction with this field of research, the Board has a unit in the Canada Centre for Inland Waters in Burlington, Ont., and works in close co-operation with the Department of Energy, Mines and Resources, which is engaged in other areas of the pollution problem.

The basic purpose of the Board is to increase the knowledge, scope, value, and efficiency of the Canadian fisheries and other aquatic resources through scientific research. From this research comes assurance that Canadians will have abundant supplies of fish, mammal and invertebrate, from the sea and lakes, and that these stocks will be expanded. To this end, the Board's scientists study the environment (including pollution), the resource (the availability, and abundance of fish and the effects of fishing), harvesting techniques, methods of increasing the resource and commercial products.

An experimental fishing technique known as Canadian pair seine netting has been used successfully off the northwest coast of Newfoundland.



The Board's contributions to the development of new fisheries and to fish processing methods on both the Atlantic and Pacific Coasts have contributed millions to the economy of the fishing industry. Its chilled sea-water research, for example, has been instrumental in saving untold dollars by preventing waste and by up-grading the quality standards of fish processing.

During 1969 the results were assessed of experiments on shallow Prairie lakes in which fingerling rainbow trout were introduced in the spring and marketable trout harvested in the fall. The lakes, which freeze to the bottom during winter and thus cannot support a permanent fish population, are rich in nutrients. By a put-and-take process, it is felt that a lucrative new type of fishery can be introduced on the Prairies, and initial experiments seem to verify the theory.

Board scientists have laid the basis for rational exploitation of our renewable aquatic resources. The introduction of rapid changes in the fisheries of Canada from relatively primitive fishing operations to integrated food industries have revolutionized the industry. The Board's contribution to the development of high quality fish meal and fish protein concentrates is world famous. The reputation of its scientists and of their work is second to none in the world of aquatic sciences.

A major contribution of the Board to the scientific development of Canada has been its interest in encouraging science-oriented young people in the fields of marine biology. Its programs of university grants and the inclusion of laboratory space for the use of graduate students in a number of the Board's ten stations from coast to coast has been generous.

# Finance, Business and Industry

## Government Finance

### Federal Finance

The scope of the responsibilities assigned to the federal government by the British North America Act, together with the programs which have been introduced in the exercise of these responsibilities, have grown considerably since 1867 and have also become very complex. As a consequence, intricate financial arrangements between federal, provincial, and municipal governments have been developed to raise and share the revenues required to meet the greatly increased expenses faced by each order of government. The Federal-Provincial Fiscal Arrangements Act authorizes tax collection agreements and certain fiscal payments to provinces. "Established Programs" legislation of 1965 provides for the voluntary withdrawal by provincial governments from certain federal-provincial joint programs in exchange for increased tax abatements and tax equalization payments. Quebec is the only province to have availed itself of this option.

Federal government revenue, which excludes that collected on behalf of provincial governments, continues to come essentially from taxation. From fiscal year 1957-58 through fiscal year 1967-68, taxes have provided approximately 92 per cent of total net general revenue. During this period, revenue from corporate and individual income tax and general sales tax has ranged from 68 to 73 per cent of total net general revenue. Corporate income tax revenue, as a percentage of total net general revenue, has fallen from a high of 24 per cent in 1957-58 to 18 per cent in 1967-68, and individual income tax revenue has risen from 30 to 35 per cent.

The largest items of federal government expenditure continue to be those related to social welfare, defence, charges on the national debt, and unconditional transfer payments to provincial and municipal governments. The costs of social welfare, as a proportion of cost of services provided, continued to rise and accounted for 23 per cent of the latter in 1967-68 against 19 per cent in 1957-58. Cost of defence services fell from 31 to 16 per cent over the same period, while debt charges and unconditional transfer payments to provincial and municipal governments remained fairly stable, ranging from 8 to 11 per cent and from 7 to 9 per cent respectively.

During 1967-68 the major social welfare costs were payments of \$1,388 million in old-age security, \$565 million in family allowances, and \$284 million in conditional shared-cost program grants to provincial governments. The minimum age for receipt of old-age security pensions was lowered to 65 years on January 1, 1970, and the basic monthly pension payments have been raised to \$79.58 a month.



**Net General Revenue of and Cost of Services  
Provided by the Federal Government  
Year Ended March 31, 1968**

Source	Revenue \$000's
Taxes —	
Income —	
Corporations .....	1,820,589
Individuals .....	3,649,674
On certain payments and credits to non-residents .....	220,472
General sales .....	2,145,609
Excise duties and special excise taxes —	
Alcoholic beverages .....	300,274
Tobacco .....	460,262
Other commodities and services .....	99,948
Customs import duties .....	746,437
Estate taxes .....	102,192
Other .....	12,024
<b>Total taxes .....</b>	<b>9,557,481</b>
Privileges, licences and permits .....	15,807
Sales and services .....	198,047
Fines and penalties .....	6,138
Exchange fund profits .....	55,189
Own enterprises — Remitted profits .....	189,723
Bullion and coinage .....	17,152
Postal service .....	327,224
Other revenue .....	8,901
<b>Total net general revenue .....</b>	<b>10,375,662</b>
Function	Expenditure \$000's
General government services .....	474,674
Protection of persons and property .....	219,303
Transportation and communications .....	657,433
Health .....	617,829
Social welfare .....	2,580,356
Recreational and cultural services .....	108,825
Education .....	452,627
Natural resources and primary industries .....	684,450
Trade and industrial development .....	211,957
National capital region planning and development .....	22,879
Defence services and mutual aid .....	1,783,965
Veterans' pensions and other benefits .....	401,039
Debt charges (excluding retirements) .....	939,695
Own enterprises — Payments in respect of deficits .....	217,831
International co-operation and assistance .....	167,353
Unconditional transfers to provincial governments —	
Statutory subsidies .....	31,747
Federal-provincial fiscal arrangements .....	555,469
Compensation due to withdrawal from joint programs .....	152,965
Share of income tax on power utilities .....	6,700
Grants in lieu of taxes on federal property (for municipal purposes) ....	1,150
Unconditional transfers to municipal governments —	
Grants in lieu of taxes .....	42,066
Special grants .....	1,850
Other expenditure .....	742,914
<b>Total cost of services provided .....</b>	<b>11,075,077</b>

Source: *Federal Government Finance* (DBS Catalogue No. 68-211).

### Finances of the Federal Government, Years Ended March 31, 1868-1968

NOTE — These figures are derived from the Public Accounts of Canada and differ from those in the preceding table. Revenue and expenditure in this table are on a gross basis and net debt here represents the excess gross debt over net active assets.

Year	Total Budgetary Revenue	Per Capita Rev- enue <sup>1</sup>	Total Budgetary Expenditure	Per Capita Expend- iture <sup>1</sup>	Net Debt at End of Year	Net Debt per Capita <sup>2</sup>
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.95	13,716,422	3.96	75,757,135	21.58
1871.....	19,375,037	5.34	18,871,812	5.21	77,706,518	21.06
1881.....	29,635,298	6.96	32,579,489	7.66	155,395,780	35.93
1891.....	38,579,311	8.07	38,855,130	8.13	237,809,031	49.21
1901.....	52,516,333	9.91	55,502,530	10.47	268,480,004	49.99
1911.....	117,884,328	16.87	121,657,834	17.40	340,042,052	47.18
1921.....	436,888,930	51.06	528,899,290	61.82	2,340,878,984	266.37
1931.....	357,720,435	35.04	441,568,413	43.26	2,261,611,937	217.97
1941.....	872,169,645	76.63	1,249,601,446	109.80	3,648,691,449	317.08
1951.....	3,112,535,948	226.99	2,901,241,698	211.58	11,433,314,948	816.14
1952.....	3,980,908,652	284.17	3,732,875,250	266.46	11,185,281,546	773.59
1953.....	4,360,822,789	301.60	4,337,275,512	299.97	11,161,734,269	751.88
1954.....	4,396,319,583	96.15	4,350,522,378	293.06	11,115,937,064	727.15
1955.....	4,123,513,300	269.74	4,275,362,888	279.67	11,263,080,154	717.49
1956.....	4,400,046,639	280.29	4,433,127,636	282.40	11,280,368,964	701.47
1957.....	5,106,540,880	317.55	4,849,035,298	301.54	11,007,651,158	662.71
1958.....	5,048,788,279	303.96	5,087,411,011	306.29	11,046,273,890	646.74
1959.....	4,754,722,689	278.38	5,364,039,533	314.05	11,678,389,860	667.99
1960.....	5,289,751,209	302.57	5,202,861,053	326.20	12,089,194,003	676.51
1961.....	5,617,679,854	314.36	5,958,100,946	333.41	12,437,115,095	681.93
1962.....	5,729,623,724	314.16	6,520,645,674	357.53	13,228,137,045	712.34
1963.....	5,878,692,431	316.57	6,570,325,358	353.81	13,919,769,972	736.65
1964.....	6,253,704,039	330.92	6,872,401,519	363.70	15,070,149,452	781.24
1965.....	7,180,309,787	373.29	7,218,274,552	375.27	15,504,472,544	789.27
1966.....	7,695,820,204	391.76	7,734,795,525	393.75	15,543,447,865	776.58
1967.....	8,376,181,844R	418.49R	8,797,684,457R	439.55R	15,964,950,478	782.40
1968.....	9,076,589,448	444.82	9,871,364,117	483.77	16,759,725,147	807.93

<sup>1</sup> Based on estimated population at June 1 of the preceding year.

<sup>2</sup> Based on estimated population on June 1 of the same year.

The net debt of the government of Canada was \$16,759 million as of March 31, 1968, an increase of \$794 million over the previous year; it amounted to 23.5 per cent of the gross national product. Unmatured bond debt outstanding at March 31, 1968 was \$18,100 million, while treasury bills outstanding amounted to \$2,480 million.

### Federal-Provincial Programs

Federal government expenditures on joint federal-provincial programs have increased consistently throughout the past decade. The most common type, called "conditional grant" programs, are administered by the provinces;



Old and young receive monthly benefits under the federal government's flat-rate allowances.

they receive financial support from the federal government, provided they are administered in accordance with specific conditions laid down by that government. Various health and welfare programs come within this category. The Health Resources Fund Act, for example, provides that the federal government will set aside \$500 million to assist provinces in the acquisition, construction or renovation of health training facilities during the period from January 1, 1966, to December 31, 1980. The terms of the Act provide that provinces are paid 50 per cent of the reasonable costs of projects approved by the Minister of National Health and Welfare. Projects that may qualify under this program include those related to medical schools, teaching hospitals, schools of nursing, dentistry, and pharmacy. Other programs provide that the federal government will share in the cost of allowances to the aged, blind, or disabled. Joint programs also provide for federal assistance in respect of hospital care, medical care, fitness and amateur sport, and the development and strengthening of welfare services through general and professional training and research. A more recent example of the "conditional grant" program is that designed to promote regional economic and development expansion.





Faculties of dentistry, such as this at the University of Toronto, may benefit from joint federal-provincial agreements.

## Provincial Finance

Under the terms of the B.N.A. Act, provincial governments can use "direct taxation within the province in order to the raising of a revenue for provincial purposes." Theoretically their powers of taxation are restricted in the sense that they cannot impose indirect taxes. In practice, however, the provincial governments enjoy fairly wide taxing powers because of the judicial interpretation given to the idea of a direct tax. Over the years, the courts have held that a direct tax is one "which is demanded from the very person who it is intended or desired should pay it." This interpretation allows the provinces to tax all possible bases of imposition provided their taxes are levied in such a way as to be borne directly by a recipient of income if it is an income levy, by a holder of capital or by a succession beneficiary if it is a capital or succession levy, or by an ultimate purchaser or user if it is a sales or excise levy. The only taxes which the provinces may not raise are those which are expected to be passed on to other persons and are thus deemed to be indirect, such as import duties or sales and excise taxes imposed at other than the retail level of trade.

## Federal-Provincial Fiscal Arrangements

Since provinces vary greatly in size, population, and the nature and extent of their economic development, it follows that their fiscal capacity, that is, their capability to raise revenues and thus to provide public services, varies widely. Over the years, measures have been adopted by the federal government in consultation with the provinces to attenuate disparities of fiscal capacity among the provinces. These measures have been embodied in a series of federal-provincial fiscal arrangements which, besides redistributing part of the revenue collected by the federal government among the less affluent provinces, in the form of equalization payments, have provided for certain agreements respecting the collection of the income and inheritance taxes.

The latest federal-provincial fiscal arrangements became operative on April 1, 1962 and, although originally scheduled to end on March 31, 1967, have been extended indefinitely, subject to termination on due notice. These arrangements are fairly complex but in essence they provide for a system of equalization under which payments are made to certain provinces to raise their revenues from various stipulated sources to a level that would prevail if calculated national average rates of return from these sources applied in these provinces. The arrangements also provide for special additional payments to the maritime provinces and incorporate collection agreements for the income taxes. Under these arrangements, certain provinces receive a substantial part of their revenues in the form of federal transfer payments, of which equalization accounts for a significant share.<sup>1</sup>

## Municipal Finance

The B.N.A. Act placed municipal government under provincial jurisdiction. Thus the powers of municipal governments are those given to them by the statutes of their province. In the Yukon and the Northwest Territories, municipal powers have been assigned to certain localities by the federal government and the territorial councils. Because the constitution is permissive, and because of the differences in the traditions, history, and development of each province, the responsibilities assigned to municipal governments and the way in which these responsibilities are discharged vary considerably, not only from province to province but among municipalities.

Municipal governments exist to provide services that in the opinion of the provinces are best administered at the local level. The relationship of the provincial government to its municipalities is continuously under review and changes in municipal structure reflect this constant re-appraisal of their effectiveness. In 1967 major changes were introduced by the Government of New Brunswick, which resumed the responsibility of providing

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<sup>1</sup>For more information on the federal-provincial fiscal arrangements, readers are referred to the introductory part of the Dominion Bureau of Statistics' publication *Provincial Government Finance: Revenue and Expenditure* (Catalogue No. 68-207).

## Estimated Gross Provincial Revenue in 1969-70

Source	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
					Millions of dollars						
(1) Taxes .....	93.3	18.7	150.2	160.4	2,050.8	2,875.4	285.5	238.5	290.2	613.1	6,776.1
(2) Privileges, licences & permits	13.7	2.3	15.6	18.7	198.0	305.7	29.7	62.6	315.1	172.4	1,133.8
(3) Other revenue from own sources .....	19.9	7.4	49.2	28.8	148.1	430.1	39.5	92.8	90.7	139.7	1,046.2
(4) Sub-total for revenue from own sources .....	126.9	28.4	215.0	207.9	2,396.9	3,611.2	354.7	393.9	696.0	925.2	8,956.1
(5) Transfer payments (mostly from the federal government)	163.4	40.7	178.2	150.9	717.1	625.6	176.5	130.2	205.6	214.8	2,603.0
(6) Total gross provincial revenue (total (4) + (5)) ....	290.3	69.1	393.2	358.8	3,114.0	4,236.8	531.2	524.1	901.6	1,140.0	11,559.1

## Estimated Gross Provincial Expenditure in 1969-70

Function	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
					Millions of dollars						
(1) General government .....	15.2	4.9	12.7	21.1	178.8	139.3	20.5	17.5	33.0	43.2	486.2
(2) Protection of persons and property .....	8.0	1.1	4.5	6.9	89.7	176.1	6.0	14.4	36.2	30.5	373.4
(3) Transportation and communications .....	55.1	10.6	53.4	43.5	340.3	484.4	50.2	75.4	101.3	139.4	1,353.6
(4) Health .....	59.9	11.5	113.9	69.4	706.0	1,189.2	172.9	148.7	264.7	308.9	3,045.1
(5) Social welfare .....	41.6	7.0	31.0	24.7	462.7	253.4	35.4	35.9	73.2	98.2	1,063.1
(6) Education .....	83.5	15.8	114.1	128.6	1,026.7	1,316.5	149.0	131.8	328.4	323.3	3,617.7
(7) Recreation and culture .....	2.0	2.0	2.5	3.3	25.8	39.0	7.7	7.9	9.8	5.7	105.7
(8) Natural resources & primary industries .....	12.7	5.1	15.8	14.3	136.6	177.0	25.0	27.0	47.5	69.8	530.8
(9) Debt charges .....	28.9	7.0	50.8	30.4	126.0	252.7	20.9	39.7	6.2	.6	563.2
(10) Transfer payments to local governments .....	2.7	.6	8.2	13.5	131.2	49.9	10.2	.1	36.5	44.5	297.4
(11) Other expenditure .....	14.9	2.5	11.3	7.9	93.2	179.3	8.9	14.2	29.1	36.4	397.7
(12) Total gross provincial expenditure .....	324.5	68.1	418.2	363.6	3,317.0	4,256.8	506.7	512.6	965.9	1,100.5	11,833.9

Source: Provincial Government Finance: Revenue and Expenditure, Estimates (DBS Catalogue No. 68-205).



health and welfare services as well as the administration of justice, and by the Government of British Columbia, which continued to incorporate regional districts with a view to establishing municipal organizations throughout the province. In 1968 the Government of Ontario undertook to regionalize municipal governments; since that date, in addition to the already existing municipality of Metropolitan Toronto, two others have been established, Ottawa-Carleton and Niagara. The Government of Ontario plans to create more regional governments this year, and to review recommendations respecting regional governments for a number of localities in the province. Likewise, the Government of the Province of Quebec has formed the regional municipality of Outaouais and the urban communities of Montreal and Quebec, and it has plans to create four additional regional municipalities.

The major source of revenue of municipalities is the real property tax, which yields over two thirds of the total. It is supplemented by personal property, business, and other taxes, fines, licences and permits, public utility contributions, and provincial grants and subsidies.

Municipal debt is limited by provincial legislation and regulations. However, more and more provincial governments are aiding municipalities and local school authorities in their capital projects through outright grants at the time of construction, by loans, or by sharing the debt charges or assuming the debt.

For the calendar year 1969 the gross revenue of all municipal governments in Canada (and including waterworks) was estimated to be \$6,821,869,000 and gross expenditure, \$7,545,380,000. By December 31, 1967, the total direct debt of municipal governments — minus sinking funds and exclusive of the amount relative to school boards in the Province of Quebec — amounted to \$8,082,617,000. This includes the costs of activities carried on under their authority or by bodies co-existent with municipalities.

Beaver Lake on top of Mount Royal in Montreal. It is the responsibility of municipal governments to provide some recreation services such as this.



## Banking and Savings

The Canadian dollar is a decimal currency with 100 cents to the dollar. Currency in the form of bills is issued by the Bank of Canada. The coinage — nickel coins in denominations of one dollar, 50 cents, 25 cents, 10 cents, and 5 cents and bronze 1-cent coins — is issued by the Royal Canadian Mint. At the end of 1969 Bank of Canada notes totalling \$2,903 million and coin totalling \$434 million were in circulation.

Although many economic transactions in Canada involve payments made in the form of Bank of Canada notes and coin, an increasing proportion of payments, and certainly virtually all large ones, are made by cheque. A cheque is an order addressed to a bank to pay a third person named in the cheque a specified amount out of the deposit account maintained at that bank by the person writing the cheque. Deposit liabilities held at the chartered banks are considered a convenient means of settling transactions and are usually thought of as money because they are generally accepted in settlement of debts.

The banks offer three types of chequable accounts: current accounts, personal chequing accounts on which no interest is paid, and chequable personal savings accounts on which interest is paid. There are also non-chequable savings accounts on which the banks pay a higher rate of interest than on chequable savings accounts. The banks as a group operate extensive facilities for clearing cheques drawn on one bank and cashed in another. On April 30, 1969, the chartered banks had 19,463,747 deposit accounts with an average deposit of \$1,317.63 in each account.

### Banks

There are ten chartered banks in Canada most of which are owned by a large number of individual Canadian shareholders. The majority of the banks have held banking charters (that is, licences from Parliament) for many years, but two new banks have been established in the past three years. Each of the banks has a network of branches and in the largest banks the branch network extends throughout the country. At the end of 1969, the banks operated a total of 6,012 branches in Canada. By the yardstick of total assets the two largest Canadian banks are among the eighteen largest banks in the world and the three largest Canadian banks are among the 27 largest in the world.

In addition to providing deposit accounts, the chartered banks offer their customers a wide variety of other services including facilities for investing in stocks and bonds, safekeeping for valuables, and loans for a variety of purposes and periods of time. Although bank loans are mainly for relatively short terms, the banks also make longer term mortgage loans for commercial and residential construction. To be able to meet unexpected withdrawals of deposits, the banks maintain reserves, mainly in the form

One of the newest bank buildings in Canada is the Banque Canadienne Nationale in the heart of old Montreal.



of currency on hand and deposits with the Bank of Canada. The Bank of Canada performs the function of a banker for the chartered banks.

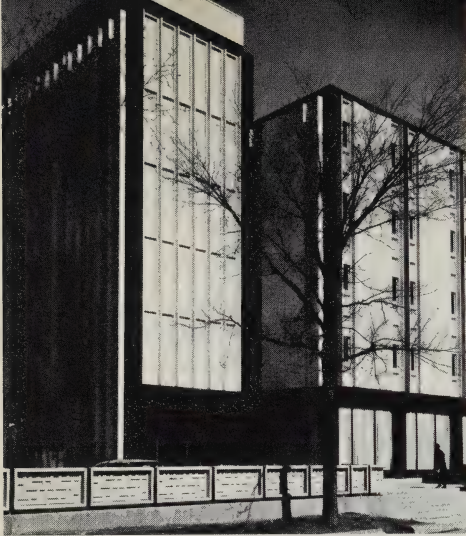
Many of the chartered banks are also active in international business and provide domestic banking services in a number of other countries, especially in the Caribbean area. The banks maintained 256 branches and agencies outside Canada at the end of 1969.

## Non-bank Financial Institutions

In 1969, the assets of the banks accounted for some 60 per cent of the total assets of all Canadian financial intermediaries. Their main competitors are trust companies, mortgage loan companies, *caisses populaires*, credit unions, Quebec savings banks, and sales finance and consumer loan companies. Investment dealers and stockbrokers also play an important part in the financial system. While the chartered banks remain the most important financial institutions in Canada, the postwar period has witnessed a rapid growth and development of competing institutions. Those enjoying the most rapid growth in recent years have been the trust companies and the mortgage loan companies, of which there are approximately 110 companies operating over 400 branches across Canada. Both types of institutions accept deposits and have networks of branches. Although they compete with the banks to attract personal savings deposits, most of their funds are raised through the sale of fixed term debentures and investment certificates.

A substantial portion of the assets of both trust and mortgage loan companies is held in the form of mortgages. Trust companies, in addition,





Insurance is provided by the Co-operative Insurance Services in Regina, Sask.

administer private and corporate pension funds and the estates of individuals, manage companies in receivership, and act as financial agents for municipalities and corporations. Mortgage and trust companies may be licensed and supervised either by the federal Department of Insurance or by provincial authorities.

Another important type of intermediary among Canadians is the credit union or *caisse populaire* as it is called in Quebec. The *caisses populaires* began operations around 1900 and acted mainly as savings institutions for low income groups. Later, some began lending to members at low cost, in addition to providing savings facilities. Unlike the chartered banks, most of which have been in operation since the turn of the century, virtually all of the credit unions and *caisses populaires* were founded during the past generation. Their growth has been due in large measure to their co-operative foundation and to the local character of individual credit unions and *caisses populaires* — a striking contrast to the development of many other institutions.



One of the 230 companies selling life insurance in Canada is Westmount Life in Montreal.

## Bank of Canada

The main function of the Bank of Canada is to regulate credit in the best interest of the economic life of the nation, so far as is possible by monetary action. The chartered banks have to maintain on a half-monthly basis the equivalent of 12 per cent of demand deposits and 4 per cent of notice deposits in the form of Bank of Canada notes and deposits at the Bank of Canada. In addition to these cash or primary reserves, the banks are required to maintain secondary reserves consisting of excess cash reserves, treasury bills, and day-to-day loans. These assets are easily converted into cash in case the need arises. The Bank of Canada carries out its monetary policy function by varying the amount of reserves available to the chartered banks. Because of the relationship the banks' reserves bear to their total deposits, the Bank of Canada can induce the banks to expand or contract their assets in order to bring about the credit conditions that it considers appropriate. To affect the level of the chartered banks' reserves, the Bank of Canada acquires and disposes of a variety of financial assets.

The Bank also makes short-term advances to chartered banks or to banks operating under the Quebec Savings Bank Act as well as to the government of Canada. The minimum rate at which the Bank is prepared to make advances is called the Bank Rate, and the Act requires that it be made public at all times. The Bank acts as fiscal agent for the government of Canada; it operates the government's deposit account through which flow virtually all government receipts and expenditures, handles debt management and foreign exchange transactions for the government, and acts as an adviser.

## Insurance

The purchase of life insurance has constituted a popular way for Canadians to make longer term savings. With an average of over \$17,700 of life insurance in force per household in 1968, Canadians are well insured compared to people in other countries. Savings of Canadians through life insurance account for about 17 per cent of their personal savings.

The Canadian life insurance business consists of over 230 companies and fraternal benefit societies, about half of which are federally registered companies. The latter group of companies write more than 90 per cent of the total business of the industry and hold assets of over \$16,000 million. In addition to life insurance, most of these companies sell policies to cover expenses resulting from illness and to compensate policyholders for wages not received. Insurance may be purchased from a registered insurance salesman or through a "group" plan at one's place of work.

In addition to those companies selling life insurance, more than 300 companies sell insurance for fire, theft, automobile damages, and other casualties. The federally registered companies selling such insurance have assets of over \$2,000 million.

## Capital Expenditure

A sustained rising income in Canada is partly dependent upon the increase in the capacity of the economy to produce and sell goods and services. Such increase in capacity is in turn largely dependent on the amounts of new investment in mines, factories, stores, communication and transportation equipment, power generating plants, educational and health institutions, roads, parks and all other assets which produce income-generating goods and services now and in the future. Surveys of such capital expenditures are carried out by the Dominion Bureau of Statistics at regular intervals each year and statistics for expected and realized amounts of expenditures are published on each occasion. A survey conducted early in 1970 indicated that capital expenditures were expected to total \$17,865 million for the year. This represents an increase of 7.5 per cent over the \$16,612 million estimated for 1969. The planned rate of increase in capital spending is similar to the average experienced over the past decade and, if achieved, will provide

Scotia Square in Halifax, N.S. is one of the new developments that represents an expenditure of capital and an augmentation of Canada's building stock.







The Great Falls power plant on the Winnipeg River is an investment producing an increase in the energy sources of Manitoba.

the impetus to moderate growth in the economy without placing excessive demands on investment-supporting activities. This is only a forecast, however, and conditions during the year may have caused business and other organizations to change their spending plans.

The following table shows that, with the exception of housing, all other major sectors of the economy are expected to have higher capital spending during 1970. The largest increase is in manufacturing as a result of large additions to productive capacity in the primary metals, transportation equipment, petroleum refining, chemicals, paper, rubber, food and beverages, and electrical products industries. The second largest gain is in the trade, finance, and commercial services sectors, where higher expenditures are expected by retailers, financial institutions, real estate operators, and hotel owners. All levels of government and most institutional groups are expected to increase their expenditures, especially on hospitals, educational facilities, and roads. In the preceding year the level of both governmental and institutional investment fell short of the original plans.

Although outlays for non-residential construction are expected to increase in 1970, those for housing are likely to decline. This decline in housebuilding activity follows two years of rapid expansion, and it is expected that the



The Pierre Laporte suspension bridge in Quebec City spans the St. Lawrence River.

number of new housing units started in 1970 will be somewhat below the record number of the preceding year but that the number of units completed will remain at a relatively high level.

Capital spending is expected to be higher in 1970 in all regions of Canada, with the exception of the Prairies where there is virtually no change. The level of spending is expected to be 14 per cent above the 1969 level in Ontario and about 6 per cent higher in the Atlantic region, Quebec, and British Columbia. Individual projects and special regional conditions are often reflected in regional changes. For example, a decline in business investment in the Prairie Provinces was partially offset by strength in oil and gas developments and manufacturing in Alberta. Housebuilding is the only area of decline in Ontario but sharp increases are expected in manufacturing and commercial building investments. In the Atlantic Provinces, except for increased spending by institutions and governments, only the primary industries sector is expected to advance significantly. A moderately higher level of spending is expected in all major sectors in Quebec, with

the exception of housing. The most important contributor to the expected increase in British Columbia is an expanded program in utilities along with moderate gains in all major sectors except commercial buildings.

### Capital Expenditures, by Sector and Province, 1968 to 1970<sup>1</sup>

Item No.	Type of enterprise	Year	Capital expenditures		
			Construc- tion	Machinery and equipment	Sub- total
Millions of dollars					
1	Agriculture and fishing .....	1968	253	769	1,022
		1969	243	747	990
		1970	245	753	998
2	Forestry .....	1968	37	40	77
		1969	48	51	99
		1970	49	53	102
3	Mining, quarrying and oil wells .....	1968	782	292	1,074
		1969	786	310	1,096
		1970	858	309	1,167
4	Manufacturing .....	1968	657	1,542	2,199
		1969	742	1,802	2,544
		1970	932	2,222	3,154
5	Utilities .....	1968	1,774	1,446	3,220
		1969	1,845	1,508	3,353
		1970	2,091	1,518	3,609
6	Construction industry .....	1968	14	240	254
		1969	14	245	259
		1970	15	250	265
7	Housing .....	1968	2,806	—	2,806
		1969	3,370	—	3,370
		1970	3,200	—	3,200
8	Trade — wholesale and retail .....	1968	199	311	510
		1969	187	302	489
		1970	225	299	524
9	Finance, insurance and real estate .....	1968	399	90	489
		1969	411	124	535
		1970	481	118	599
10	Commercial services .....	1968	112	361	473
		1969	100	441	541
		1970	129	489	618
11	Institutional services .....	1968	1,197	225	1,422
		1969	1,152	203	1,355
		1970	1,243	221	1,464
12	Government departments .....	1968	1,679	230	1,909
		1969	1,774	207	1,981
		1970	1,972	193	2,165
13	Totals (items 1 to 12) .....	1968	9,909	5,546	15,455
		1969	10,672	5,940	16,612
		1970	11,440	6,425	17,865

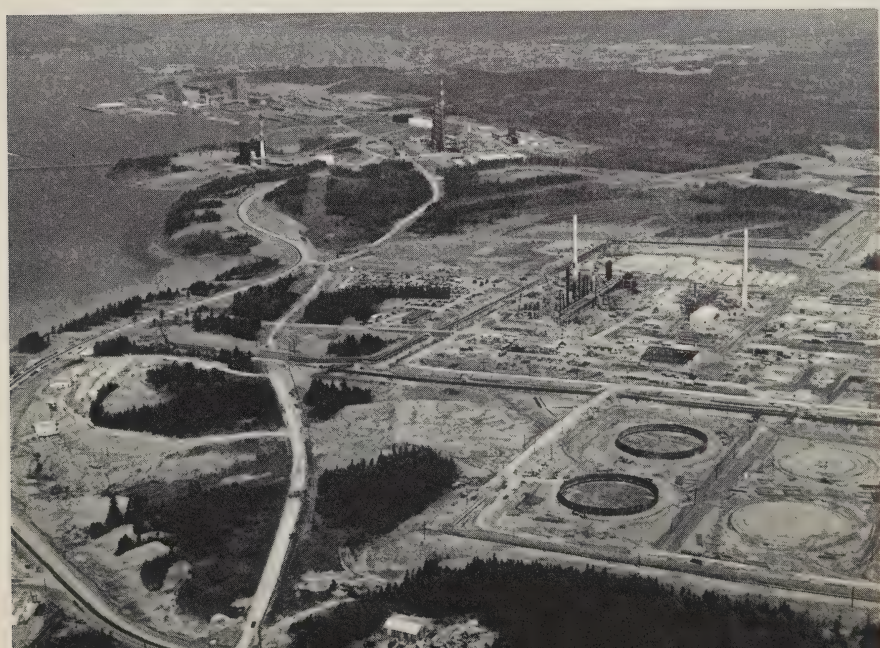
<sup>1</sup> The 1969 and 1970 estimates are subject to revision.

Source: *Private and Public Investment in Canada, Outlook 1970 and Regional Estimates* (DBS Bulletin No. 61-205).





The Prince George, B.C. industrial park (above) is an example of planning and financing at the three levels of government as well as by industry. Below, the industrial development at Point Tupper, N.S.



**Capital Expenditures, by Sector and Province, 1968 to 1970<sup>1</sup>**

Item No.	Province	Year	Capital expenditures		
			Construc- tion	Machinery and equipment	Sub- total
Millions of dollars					
1	Newfoundland .....	1968	266	121	387
		1969	309	81	390
		1970	362	90	452
2	Prince Edward Island .....	1968	26	15	41
		1969	28	15	43
		1970	31	15	46
3	Nova Scotia .....	1968	306	155	461
		1969	377	136	513
		1970	387	162	549
4	New Brunswick .....	1968	218	112	330
		1969	227	167	394
		1970	246	133	379
5	Quebec .....	1968	1,968	1,207	3,175
		1969	2,065	1,184	3,249
		1970	2,175	1,249	3,424
6	Ontario .....	1968	3,485	2,094	5,579
		1969	3,778	2,459	6,237
		1970	4,138	2,958	7,096
7	Manitoba .....	1968	549	271	820
		1969	623	269	892
		1970	605	228	833
8	Saskatchewan .....	1968	541	402	943
		1969	453	298	751
		1970	430	290	720
9	Alberta .....	1968	1,205	518	1,723
		1969	1,352	579	1,931
		1970	1,448	562	2,010
10	British Columbia <sup>2</sup> .....	1968	1,345	651	1,996
		1969	1,460	752	2,212
		1970	1,618	738	2,356
11	Canada .....	1968	9,909	5,546	15,455
		1969	10,672	5,940	16,612
		1970	11,440	6,425	17,865

<sup>1</sup> Actual expenditures 1968, preliminary actual 1969, and intentions 1970.

<sup>2</sup> Includes Northwest Territories and Yukon.

## Housing

For the second consecutive year housing production in 1969 climbed to record levels. Construction was started on 210,415 dwelling units; 196,878 units were begun in 1968. The number of starts in 1969 was well above the minimum required to meet the federal government's commitment to produce a million new units in the five-year period ending in 1973 — an estimate established by the Economic Council of Canada, of housing demand by then. Measured per capita, Canada's housing performance in 1969 greatly exceeded



that of the United States, where the construction of housing declined from the level of 1968.

Total investment in residential construction during the year reached \$3,400 million, an increase over the \$2,800 million invested in 1968. Approximately one third of this amount was provided through the various facilities of the National Housing Act in the form of insured mortgage loans by approved lenders operating under the Act or direct assistance through the federal housing agency, Central Mortgage and Housing Corporation. The remainder was provided from private sources, *caisses populaires*, and co-operatives.

While new construction continued to increase there was also a marked improvement in the quality of all housing in Canada. Fewer than 150,000 dwellings throughout the country are now in need of major repairs whereas 254,000 were so judged in 1960. Similarly, units lacking modern plumbing facilities have been reduced by half in the last decade. At the same time overcrowding has declined substantially as a result of the construction of more than a million and a half new dwellings in the 1960's. Today it is estimated that the number of "lodging families" in Canada stands at approximately 150,000, a considerable reduction from the 235,000 reported in 1961.

Faro, the townsite for the Anvil Mining Corporation in central Yukon, is a planned community.





Most of the year-to-year gain in housing production recorded in 1969 was accommodation for low-income groups and, in large measure, these increased building activities reflected the new incentives provided through amendments to the National Housing Act adopted during the year. More than half of CMHC's entire capital budget of \$680 million was allotted to the support of low-income housing. Almost \$200 million was authorized for the provision of 17,097 public housing units intended for lease at subsidized rentals based on a family's income. Another \$180 million was approved to finance a program of low-rental housing under provisions of the Act authorizing 95 per cent loans at below-normal interest rates where the units are to be leased at rentals substantially lower than those charged on the open market. Loans were approved under these arrangements in 1969 for 10,386 self-contained housing units and hostel accommodation for 9,508 persons.

In view of the growing demands for low-rental accommodation, especially in the large urban centres of Canada, federal funds for these types of housing were sharply increased in 1970. Two thirds of the \$854 million of federal funds allocated for housing this year have been earmarked for low-rental developments.

Other special provisions of the Act were used extensively throughout the year. A total of \$68 million was authorized for 55 housing projects for students providing dormitory accommodation for 9,703 and self-contained units for 1,627 married students and their families.

In support of the nation-wide program to combat pollution, \$50 million was allocated to 56 municipalities for sewage-treatment projects. As an added incentive to such developments, the NHA also provides that 25 per cent of the loan and interest charges will be forgiven for work completed by March 31, 1975.

More than \$33 million was authorized to aid urban renewal programs while six land-assembly projects, to be carried out under joint federal-provincial arrangements, will provide a total of 960 serviced building lots for sale to individual prospective home owners and builders. Under an alternative loan plan a total of \$7 million was authorized to assist in the development of land for residential purposes.

In addition to administering specialized housing and associated programs, CMHC also insures loans made by lenders authorized to operate under the NHA or, in areas where approved lenders are inactive, makes loans directly to individuals or builders. During 1969 approved lenders' investment in housing totalled about \$711 million for 48,694 new dwellings, a decrease from the \$832 million for 58,733 units in 1968. The decrease was principally in rental housing.

Direct lending by CMHC in support of private building of housing accounted for about \$161 million, or 23 per cent of the 1969 capital budget. Although this represents a drop of about \$80 million from the 1968 total the decrease is attributable to the greatly increased federal commitment to low-rental housing.

In June 1969 a series of amendments to the NHA were approved. To



The University of Alberta's Calgary campus provides new student housing.

stimulate the flow of private funds into the mortgage market the NHA interest rate was freed and a five-year renewable mortgage was introduced. These changes had the effect of making investment in NHA mortgages more attractive to private lending institutions. Other changes, aimed at easing the financial load on prospective home owners and low-income groups included the extension of the maximum amortization period from 35 to 40 years; the reduction of the mortgage insurance fee, paid by the borrower, by 50 per cent; the increase of loan maximums on all new housing (except apartments) from \$18,000 to \$25,000 and on existing housing from \$10,000 to \$18,000 and, in the case of low-rental accommodation, the removal of the 5 per cent profit limit imposed on entrepreneurs and an increase of the maximum loan from 90 per cent to 95 per cent of construction costs. The scope of loans on existing housing was broadened to include, in addition to purchase, the improvement, alteration, or discharge of encumbrance, or any combination of the four.

Conventional institutional lending for 82,464 new units in 1969 was less than for the 86,036 in 1968. Approximately two thirds of the units approved for 1969 were multiple dwellings such as apartment buildings.

Multiple forms of housing again accounted for more than 50 per cent of all residential construction. Starts of apartment and row dwellings rose to 121,638 from 111,425 in 1968, an increase of 8.3 per cent. Starts of single, semi-detached, and duplex units increased by 3.4 per cent from 85,453 in 1968 to 88,777 in 1969.

# Labour

The number of persons 14 years of age and over was 14,638,000 in 1969. Of this total 8,162,000 were in the labour force, a participation rate of 55.8 per cent. Men in the labour force numbered 5,560,000 or 76.6 per cent of the male population of working age, and women 2,602,000 or 35.2 per cent of the female population of working age.

## The Labour Force, 1969 Annual Averages

Age Group	Men			Women		
	Number	Distribution	Participation Rate <sup>1</sup>	Number	Distribution	Participation Rate <sup>1</sup>
	Thousands	%	%	Thousands	%	%
<b>Totals,</b>						
<b>14 years and over ..</b>	<b>5,560</b>	<b>100.0</b>	<b>76.6</b>	<b>2,602</b>	<b>100.0</b>	<b>35.2</b>
14-19 .....	470	8.5	37.9	369	14.2	31.1
20-24 .....	731	13.1	84.2	509	19.6	59.3
25-44 .....	2,472	44.5	96.9	993	38.2	38.5
45-64 .....	1,720	30.9	91.1	686	26.4	35.5
65 + .....	167	3.0	23.6	46	1.8	5.5

<sup>1</sup> The labour force participation rate for any group is the percentage of the total population of that group in the labour force.

The period 1964-69 was one of rapid expansion in the Canadian labour force. In 1969, there were 1,229,000 more persons in the labour force than in 1964 — 599,000 more men and 630,000 more women. During the five-year interval, the total labour force grew at an average rate of 3.3 per cent each year. For men, the annual rate of increase was 2.3 per cent and for women 5.5 per cent. The decline in the participation rate for men from 78.1 per cent in 1964 to 76.6 in 1969 was offset by an increase in the participation rate for women from 30.5 per cent to 35.2 per cent. As a result, the participation rate for Canada as a whole reached 55.8, the highest ever recorded.

Total employment in 1969 averaged 7,780,000, of which 5,272,000 were men and 2,508,000 were women. In recent years, the proportion of married women employed has been rising steadily. In 1969, 56.3 per cent of all women employed were married, whereas ten years earlier only 44.9 per cent were married.

## Employment by Marital Status and Sex, 1969 Annual Averages

Status	Men		Women	
	Thousands	%	Thousands	%
<b>Total</b> .....	<b>5,272</b>	<b>100.0</b>	<b>2,508</b>	<b>100.0</b>
Single .....	1,197	22.7	876	34.9
Married .....	3,975	75.4	1,413	56.3
Other .....	100	1.9	219	8.8



The number of persons employed in agriculture in Canada averaged 535,000 in 1969, representing less than 7 per cent of total employment. Agricultural employment continued to be concentrated in the Prairie region while the Atlantic region and British Columbia together accounted for less than 10 per cent of all workers in this sector. Ontario and Quebec together accounted for two thirds of total employment in non-agricultural industries, which is in line with their share of the total population 14 years of age and over.

### Employment by Region, 1969 Annual Averages

Region	Agriculture		Non-agriculture	
	Thousands	%	Thousands	%
<b>Canada</b> .....	<b>535</b>	<b>100.0</b>	<b>7,245</b>	<b>100.0</b>
Atlantic .....	26	4.9	579	8.0
Quebec .....	107	20.0	2,025	28.0
Ontario .....	136	25.4	2,800	38.6
Prairies .....	243	45.4	1,070	14.8
B.C. ....	23	4.3	772	10.7

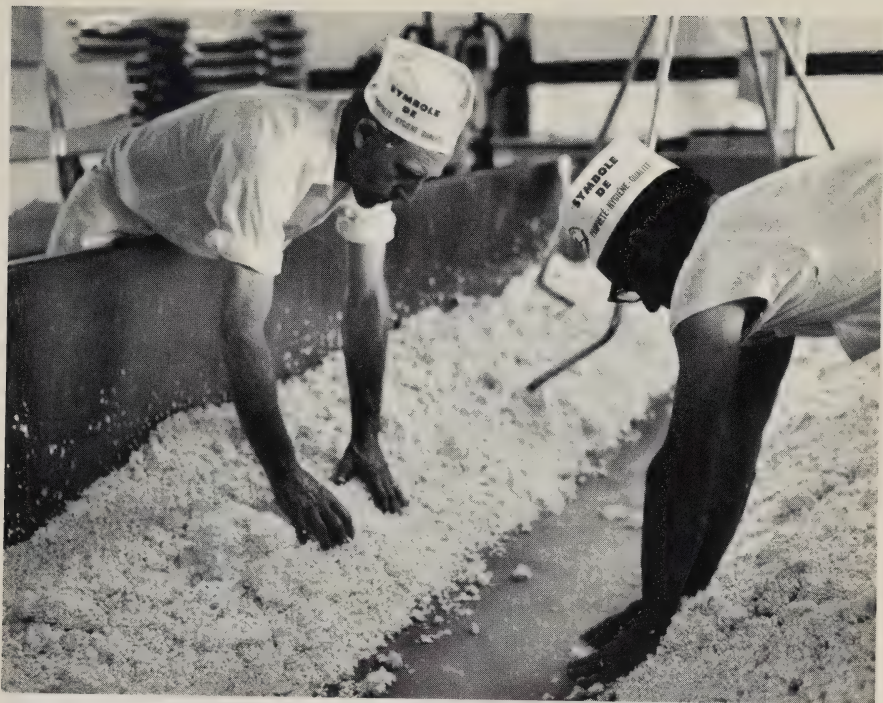
Of the 7,780,000 persons employed in 1969, 1,918,000 worked in community, business, and personal service and 1,819,000 in manufacturing. These two industry groups accounted for almost half of the total employed. On the other hand, agriculture and other primary industries (which include forestry, fishing, and mining) accounted for less than 10 per cent of the total.

Among the 5,272,000 men employed in 1969, the largest number, 1,409,000 or 27 per cent, worked in manufacturing. Among 2,508,000 women, 1,144,000 or 46 per cent, were employed in community, business, and personal service.

### Employment by Industry, 1969 Annual Averages

Industry	Thousands	%
<b>All industries</b> .....	<b>7,780</b>	<b>100.0</b>
Goods-producing industries .....	3,053	39.2
Agriculture .....	535	6.9
Other primary industries .....	217	2.8
Manufacturing .....	1,819	23.4
Construction .....	482	6.2
Service-producing industries .....	4,727	60.8
Transportation, communications and other utilities .....	693	8.9
Trade .....	1,292	16.6
Finance, insurance, real estate .....	350	4.5
Community, business and personal service .....	1,918	24.7
Public administration .....	474	6.1

The number of persons employed in the service-producing industries accounted for 61 per cent and those in the goods-producing industries 39 per cent of total employment in 1969. These proportions represent a reversal in recent years of those in effect earlier, and are mainly owing to the



Cheddar cheese is made in this co-operative in the Lac St-Jean region of Quebec.

consistent decline in agriculture, the low rate of growth in employment in the other primary industries, and the rapid rise in job opportunities, particularly for women, in community, business, and personal service.

It may be observed that employment of men in the goods-producing sector was virtually unchanged in the last two decades while employment in the service-producing sector has almost doubled. Similarly, employment of women rose by about 40 per cent in the goods-producing industries and by about 180 per cent in the service-producing industries.

## Labour Legislation

Labour legislation establishes minimum standards for wages and working conditions, and regulates the system of collective bargaining. Parliament enacts legislation for certain interprovincial industries, while the provincial legislatures establish laws governing other employment.

**Minimum Standards.** Minimum standards for wages, hours of work, over-time pay, annual vacations, and public holidays are established for workers under federal jurisdiction by the Canada Labour (Standards) Code. The minimum wage provided in the Act is \$1.65 an hour.

The Code sets standard hours (that is, the maximum number of hours that may be worked at regular rates of pay) at 8 in a day and 40 in a week. More hours may be worked, to a maximum of 48 hours in a week, so long as one and one half times the regular rate is paid. Eight general holidays with pay and an annual vacation with pay of two weeks are also provided by the Code.

A federal equal pay Act prohibits an employer from paying women workers at a rate less than that of a male employee for identical or substantially identical work, and the Canada Fair Employment Practices Act forbids discrimination in employment because of race, colour, religion, or national origin. The Canada Labour (Safety) Code authorizes the making of regulations applicable to the industries under federal jurisdiction to prevent work accidents and occupational health hazards.

A hundred television sets and seventy-five stereo phonographs are turned out each day by skilled workers in Stellarton, N.S.





Each province establishes minimum rates of pay for both men and women, which cover most employees in the province except those working on farms and in private homes. The general rates for experienced adult workers are given in the table below. Most provinces have also established rates for special occupations and industries and several have rates applying to young or inexperienced workers.

### Minimum Rates of Pay, by Province

Province	Rates by the Hour
Newfoundland .....	Workers 18 and over: men, \$1.25; women, \$1.00
Prince Edward Island ....	Men over 18, \$1.25; women, 95¢
Nova Scotia .....	Workers 18 and over: men, \$1.25 (larger centres), \$1.15 (rest of province); women, \$1.00 (larger centres), 90¢ (rest of province)
New Brunswick .....	\$1.15
Quebec .....	Workers 18 and over: \$1.40 (Greater Montreal area); \$1.35 (rest of province)
Ontario .....	\$1.50
Manitoba .....	Workers 18 and over: \$1.50
Saskatchewan .....	Workers 17 and over: \$1.25 (larger centres), \$1.15 (rest of province)
Alberta .....	Workers 18 and over: \$1.55
British Columbia .....	\$1.50

The principle of equal pay for equal work without discrimination against women is set out in the legislation of all provinces and all provinces also prohibit discrimination on grounds such as race, colour, religion, or national origin.

Two provinces, New Brunswick and British Columbia, have legislation requiring an employer to grant a 12-week period of maternity leave on the request of the employee.

The regulation of hours of work is much less uniform. Five provinces have laws of general application regulating these. Government regulation of hours of work takes two different forms. The laws of Alberta, British Columbia, and Ontario set a maximum number of hours a day and a week (8 hours in a day and 44 or 48 in a week) beyond which an employee must not work. The Manitoba and Saskatchewan Acts regulate hours through the requirement that an overtime rate of one and one-half times the regular rate must be paid if work is continued beyond specified daily and weekly hours (in Manitoba and Saskatchewan, 8 and 44 hours).

In 1968 Ontario introduced legislation requiring that employers pay a similar overtime rate for time worked beyond 48 hours in a week. Permits are necessary for such overtime work. In other provinces working hours of certain classes of employees are regulated under various statutes. Hours of work for a substantial number of employees in Quebec are regulated by decrees under the Collective Agreement Decrees Act applying to particular industries. Standards vary under the decrees; in a number of decrees recently issued hours of work have been reduced.

Under the laws of all provinces employees are entitled to an annual vacation with pay after a specified period of service.



It's a long way down for men stringing conductor for the Nelson River transmission line in Manitoba.

**Vacations with Pay, by Province**

Province	Length of Annual Vacation	Vacation Pay
Newfoundland .....	2 weeks	4% of annual earnings
Prince Edward Island ....	1 week	2% of annual earnings
Nova Scotia .....	2 weeks	4% of annual earnings
New Brunswick .....	1 week	2% of annual earnings
Quebec .....	2 weeks	4% of annual earnings
Ontario .....	1 week; 2 weeks after 2 years' service	2% of annual earnings after the first year; 4% of annual earnings after the second year
Manitoba .....	2 weeks	Regular pay
Saskatchewan .....	2 weeks; 3 weeks after 5 years' service	1/26 of annual earnings after each of the first four years; 3/52 of annual earnings after fifth year
Alberta .....	2 weeks	Regular pay
British Columbia .....	2 weeks	4% of annual earnings

In Alberta, British Columbia, Saskatchewan, and Manitoba, employees are entitled to a stated number of paid general holidays in a year and rules are laid down for compensation for work performed on such days. Legislation in Nova Scotia and Ontario specifies an overtime rate of pay for work performed on certain holidays.

Provincial legislation setting minimum standards to be observed in places of work are continually being revised to improve the safety and health of employees. Compensation for disability caused by a work accident or industrial disease is provided under a workmen's compensation law in each province applying to a wide range of industries and occupations. Compensation is paid at the rate of 75 per cent of average earnings, subject to a ceiling. The ceiling on annual earnings in the various Acts ranges from \$6,000 to \$7,000. After the period of temporary disability is over, any permanent disability resulting from the accident is determined, and an award made in the form of a life pension or a lump sum. In the case of fatalities, dependants are paid fixed monthly amounts, which are revised from time to time by the legislature. British Columbia and Quebec have tied workmen's compensation payments to the cost of living. In British Columbia, dependents' pensions and permanent disability awards are increased 2 per cent for each rise of 2 per cent in the Consumer Price Index. In Quebec, these payments are increased as the cost of living rises, up to a maximum of 2 per cent a year. Compensation and medical aid are paid from an accident fund to which employers are required to contribute and which provides a system of mutual insurance. Federal laws provide compensation for certain seamen and for employees of the federal public service.

## **Collective Bargaining**

The collective bargaining system in Canada functions under the federal Industrial Relations and Disputes Investigation Act which applies to the industries subject to regulation by Parliament, and a labour relations Act in each of the provinces. These Acts have a number of principles in common. They recognize the right of employees to organize, and require employers to bargain with representative trade unions. They lay down rules for the collective bargaining process and make a collective agreement binding on the parties and the employees covered. Most provide that disputes arising out of the interpretation of the agreement are to be settled in a manner outlined in the agreement without stoppage of work. All Acts place a duty on the government to make available conciliation services where the parties are unable to come to an agreement, and prohibit strikes and lockouts while such conciliation is in progress.

A number of provinces have dispute settlement provisions leading to final determination of the issues concerned where the dispute affects specified essential services or categories of employees.

In 1969, Quebec set a precedent in labour relations legislation in North America. A special labour court was established and certification of labour unions is to be handled by an administrative organization within the Department of Labour and Manpower.



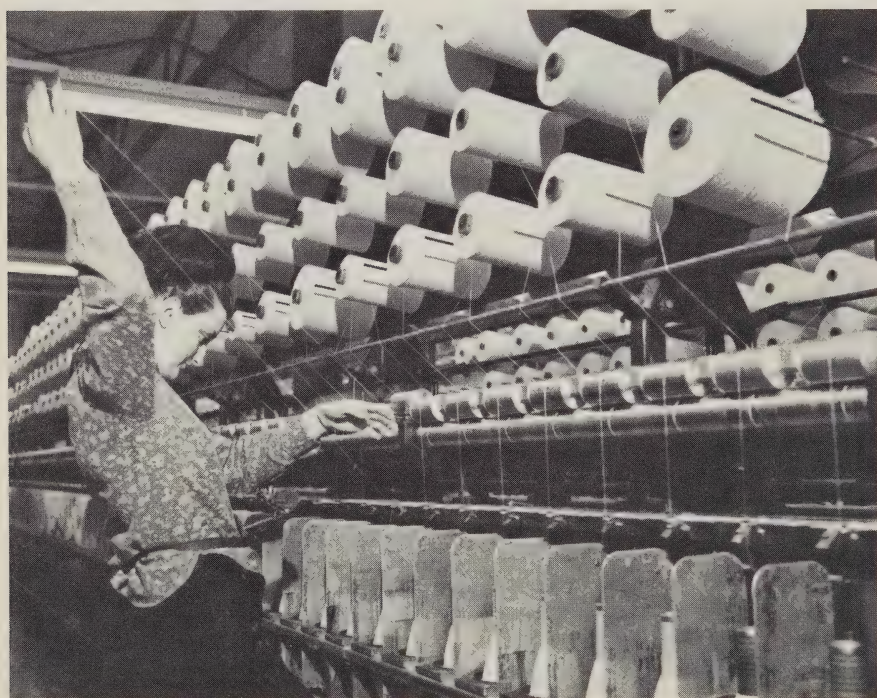
## Earnings and Hours of Work

The Dominion Bureau of Statistics obtains information on average weekly earnings, average weekly hours, and average hourly earnings from a monthly survey of some 42,000 commercial establishments in Canada having twenty or more employees in at least one month of the year. Such establishments represent slightly less than 60 per cent of the total employees in Canada.

In 1969, average weekly hours decreased from 1968 in the majority of industries and provinces. The largest decreases occurred in hotels, restaurants, and taverns (—3.6 per cent); engineering (—3.1 per cent); construction (—2.2 per cent); and highway and bridge maintenance (—2.0 per cent).

Average hourly earnings rose from 1968 to 1969 in all industries and provinces. Gains in average hourly earnings ranged from 6.8 per cent in mining, including milling, to 11.7 per cent in construction. Among the provinces, New Brunswick registered the largest increase (9.5 per cent), closely followed by Alberta (9.4 per cent); Nova Scotia showed the smallest rise (6.8 per cent).

Average weekly wages and salaries in all the industries surveyed increased 7.2 per cent from \$109.88 in 1968 to \$117.79 in 1969. Increases ranged from 6.6 per cent in the service industries to 9.3 in forestry. In manufacturing, wages and salaries showed a 7.4 per cent rise and in transportation, communications, and other utilities, the rise was 8.0 per cent.



### Average Weekly Wages and Salaries, Specified Industries, for Canada, Annual Averages, 1959, 1968, 1969

Industry	1959	1968	1969	Changes from	
				1959	1968
				to	to
				1969	1969
	Dollars			Per cent	
Forestry .....	70.18	122.04	133.35	90.0	9.3
Mining, including milling .....	90.41	139.16	148.94	64.7	7.0
Manufacturing .....	76.51	114.42	122.91	60.6	7.4
Durables .....	82.74	123.30	132.11	59.7	7.1
Non-durables .....	71.27	106.16	114.13	60.1	7.5
Construction .....	82.28	137.59	149.85	82.1	8.9
Transportation, communications and other utilities .....	76.93	122.70	132.54	72.3	8.0
Trade .....	60.91	86.91	93.76	53.9	7.9
Finance, insurance, and real estate .....	67.41	106.21	113.81	68.8	7.2
Service .....	52.21	78.99	84.17	51.2	6.6
Industrial composite .....	73.40	109.88	117.79	60.5	7.2

### Average Hourly Earnings and Average Weekly Hours for Hourly-rated Wage-Earners, Annual Averages, 1959, 1968, 1969

Industry and Province	Average Hourly Earnings			Average Weekly Hours			Changes in A.H.E.		Changes in A.W.H.	
	1959	1968	1969	1959	1968	1969	1959 to 1969	1968 to 1969	1959 to 1969	1968 to 1969
	Dollars			Number			Per cent			
<b>Industry</b>										
Manufacturing .....	1.73	2.58	2.79	40.7	40.3	40.0	+61.3	+ 8.1	- 1.7	-0.7
Durables .....	1.88	2.79	2.99	41.0	40.9	40.6	+59.0	+ 7.2	- 1.0	-0.7
Non-durables .....	1.58	2.37	2.57	40.4	39.7	39.5	+62.6	+ 8.4	- 2.2	-0.5
Mining, including milling .....	2.05	3.07	3.28	41.3	41.8	41.4	+60.0	+ 6.8	+ 0.2	-1.0
Construction .....	1.93	3.33	3.71	41.1	40.5	39.6	+92.2	+11.4	- 3.6	-2.2
Building .....	2.02	3.42	3.82	38.6	38.6	37.9	+89.1	+11.7	- 1.8	-1.8
Engineering .....	1.77	3.16	3.50	46.2	44.6	43.2	+97.7	+10.8	- 6.5	-3.1
Other industries:										
Urban transit .....	1.94	3.18	3.43	42.7	41.5	41.7	+76.8	+ 7.9	- 2.3	+0.5
Highway & bridge maintenance .....	1.51	2.41	2.58	38.4	39.3	38.5	+70.9	+ 7.1	+ 0.3	-2.0
Laundries, cleaners, & pressers .....	0.97	1.51	1.63	40.3	38.1	37.4	+68.0	+ 7.9	- 7.2	-1.8
Hotels, restaurants, & taverns .....	0.98	1.49	1.62	39.4	33.4	32.2	+65.3	+ 8.7	-18.3	-3.6
<b>Province<sup>1</sup> —</b>										
<b>    Manufacturing</b>										
Newfoundland .....	1.57	2.11	2.28	40.0	41.2	41.4	+45.2	+ 8.1	+ 3.5	+0.5
Nova Scotia .....	1.51	2.06	2.20	40.9	39.7	39.8	+45.7	+ 6.8	- 2.7	+0.3
New Brunswick .....	1.45	2.10	2.30	41.9	40.9	40.3	+58.6	+ 9.5	- 3.8	-1.5
Quebec .....	1.54	2.33	2.50	41.6	41.0	40.7	+62.3	+ 7.3	- 2.2	-0.7
Ontario .....	1.82	2.71	2.93	40.6	40.4	40.1	+61.0	+ 8.1	- 1.2	-0.7
Manitoba .....	1.60	2.31	2.47	40.6	39.5	39.3	+54.4	+ 6.9	- 3.2	-0.5
Saskatchewan .....	1.87	2.74	2.94	39.6	39.4	39.7	+57.2	+ 7.3	+ 0.3	+0.8
Alberta .....	1.83	2.64	2.89	39.9	39.3	39.4	+57.9	+ 9.4	- 1.3	+0.3
British Columbia .....	2.10	3.23	3.48	37.9	37.7	37.4	+65.7	+ 7.7	- 1.3	-0.8

<sup>1</sup> Figures for P.E.I. not available.

## Labour Organizations in Canada

Membership in labour organizations active in Canada totalled approximately 2,075,000 at the beginning of 1969 — an increase of 3.2 per cent over membership figures for 1968. Of the total labour force, 26.3 per cent were union members. About 76.6 per cent of the members were in unions affiliated with the Canadian Labour Congress (CLC); 10 per cent were affiliates of the Confederation of National Trade Unions (CNTU); and the remaining 13.4 per cent were members of unaffiliated national and international unions or independent local organizations.

Of the total of union members, 65 per cent belonged to international unions, chiefly AFL-CIO/CLC unions. National unions accounted for 31.3 per cent of union membership in Canada.

Eighteen unions reported a membership of 30,000 or more in the 1969 survey. The five largest unions are the United Steelworkers of America (150,000 members); the Canadian Union of Public Employees (124,500); the International Union of United Automobile, Aerospace and Agricultural Implement Workers of America (113,000); the Public Service Alliance of Canada (96,200); and the United Brotherhood of Carpenters and Joiners of America (73,500).

## Unemployment Insurance

On July 1, 1941 the federal government initiated a national compulsory unemployment insurance program administered by the Unemployment Insurance Commission. The latter body is headed by three persons appointed by the Governor in Council: a Chief Commissioner, a Commissioner appointed in consultation with employers' organizations, and a Commissioner appointed in consultation with employees' organizations.

The Unemployment Insurance Act classifies as insurable all persons employed under a contract of service except certain classes of employees such as those in domestic service, school teaching, most permanent employees in government, non-profit institutions, or hospitals. Also excluded are salaried workers, other than those paid at an hourly, daily, or piece work rate, who earn more than \$7,800 a year. It was estimated in June 1969 that 81 per cent of all paid workers were covered by the Act. In 1968 two thirds of all insured employees were located in Ontario or Quebec, 14 per cent in the Prairies, 11 per cent in British Columbia, and 8 per cent in the Atlantic Provinces.

The Act requires contributions which range from 10 cents a week for an employee earning less than \$20 a week to \$1.40 for employees earning \$100 or more a week. The employee's contribution is matched by his employer.

The benefit received by an unemployed claimant is calculated on his average weekly contributions for the last 30 weeks in the two years preceding the claim. Current benefit rates range from \$13 a week for a claimant, without a dependant, who has made a minimum contribution, to \$53 per week for a claimant, with a dependant, whose contribution has been at the highest



Fourth-year apprentice pipefitters in Vancouver are learning to scuba dive so that they will be skilled in underwater pipefitting. Their union is paying their tuition and equipment rental fees.



rate. A small proportion of claimants receive benefit at the low end of the range — only 17 per cent received less than \$21 a week in 1968. A claimant receives one week of benefit for every two weeks of contributions up to a maximum of 52 weeks of regular benefit. Persons who are employed for less than a full week may collect partial benefits. However, if weekly earnings exceed 50 per cent of the claimant's benefit rate, a downward adjustment of that week's benefit is made in proportion to the excess.

The contribution and benefit provisions outlined above are incorporated in what is termed "regular benefit." During a five and a half month period commencing the week in which December 1 occurs, "seasonal benefit" is available to a claimant who has made contributions for at least 15 weeks since the previous March 31, or failing this, who has not claimed regular benefit since the previous mid-May. Seasonal benefits accounted for 24 per cent of all claims in 1968.

In recent years the average weekly benefit of both types has increased in all provinces as a consequence of increasing wage levels. In 1968 the average amount of regular benefit paid each week was \$27.07, marginally greater than the average amount of seasonal benefit paid for a week, \$25.98. The average duration of both regular and seasonal benefit increased over previous years to average levels of 13.1 weeks and 10.1 weeks respectively.

## Manpower Programs

The Department of Manpower and Immigration conducts an active manpower policy aimed at helping Canadians respond to economic and technological change. It offers counselling and placement services at Canada Manpower Centres across the country. Under the Canada Manpower Training Program a worker may be referred to a training course by the CMC counsellor, to learn a new skill or up-grade his existing skills, and he may qualify for a living allowance during the training period.

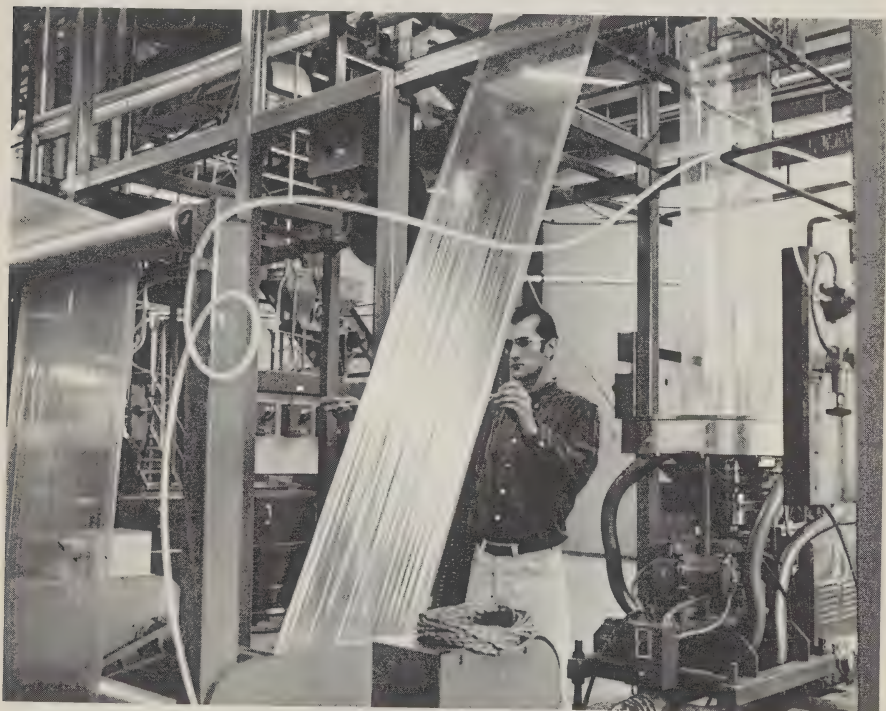
The Canada Manpower Mobility Program provides assistance to CMC clients who have been put out of work or are threatened with unemployment and have little chance of finding employment in the area in which they live. Assistance is provided in the form of exploratory, relocation, and trainee travel grants.

Rehabilitation services are available to physically or socially handicapped workers through Canada Manpower Centres. The Canada Vocational Rehabilitation Program includes training, medical restoration, aptitude assessment tests, counselling, and training allowances.



The Saskatchewan Council for Crippled Children and Adults provides sheltered workshops for handicapped, mentally ill, and mentally retarded workers.

The Department maintains a network of more than 360 Canada Manpower Centres across Canada, co-ordinated by five regional offices in Halifax, Montreal, Toronto, Winnipeg, and Vancouver. Telex links these offices and speeds information on vacancies and men available for them to the Centres. All manpower programs and services are tied together and implemented through these field offices.



Both provincial and federal aid are available to industries establishing themselves in designated areas. Such developments provide job opportunities for local men, who may be retrained for this new employment.

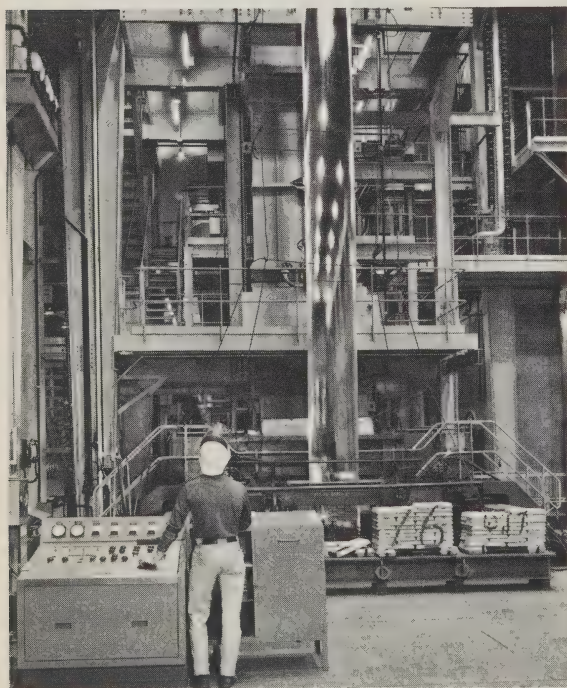
The Department also administers the Canada Manpower Adjustment Program to assist management and labour to cope with problems resulting from technical and economic change. The "Operation Retrieval" Program seeks to inform Canadians studying abroad of career opportunities at home, and to apprise employers of the professional talent available through this program. The "Jobs for Students" Program encourages employers to hire high school and university students during the summer months. In co-operation with the Department of National Defence, the Civilian Employment Assistance Program helps retiring servicemen find suitable jobs in the civilian labour force.



## Manufacturing

The manufacturing industries play a vital part in the Canadian economy, giving employment to roughly one in four of all wage and salary earners and producing about the same proportion of the gross domestic product at factor cost, that is, at the cost of the labour and capital used. They process to some degree about two thirds of the nation's commodity exports and have been an important source of increases in Canada's over-all volume of trade in recent years.

According to a survey of their investment intentions for 1970, the manufacturing industries were expected to make more than one third of all Canadian capital expenditures on machinery and equipment. The same survey indicated that in 1970 manufacturers expected to make outlays totalling \$3,154 million on construction, and machinery and equipment. This amount is almost one fourth higher than the previous year's expenditures and some 43 per cent higher than those for 1968. (Price changes affect these figures, of course.) These industries are a source of growth in the economy: although less capital-intensive than the mining industries or utilities, they employ



Large, complex, and expensive installations are needed to process steel. This section of Stelco in Hamilton, Ont., is devoted to galvanizing.

considerable machinery in relation to their labour force and account for a large part of over-all advances in national productivity.

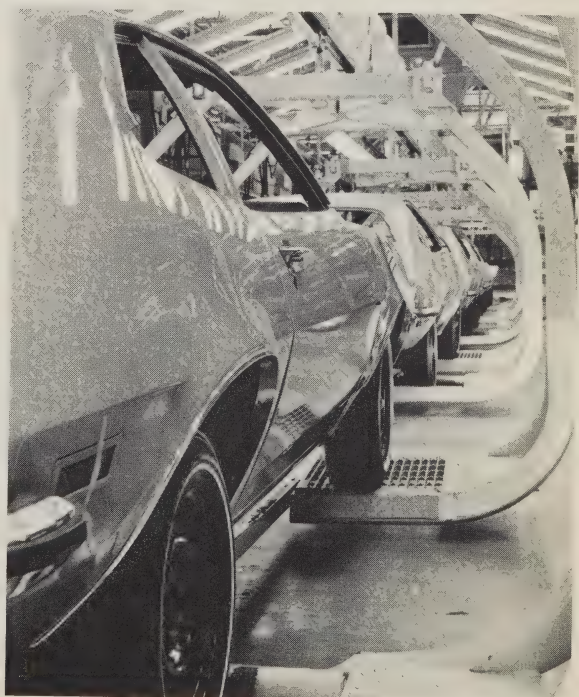
Their 1969 average employment of 1,691,000 (as estimated from monthly surveys) reflected an increase of 3.2 per cent over the previous year.

According to a survey the manufacturing industries were paying average weekly wages and salaries of \$130.25 in March, 1970. A preliminary figure of \$43,414 million for shipments of their own products in 1969 represented an increase of 6.8 per cent over 1968.

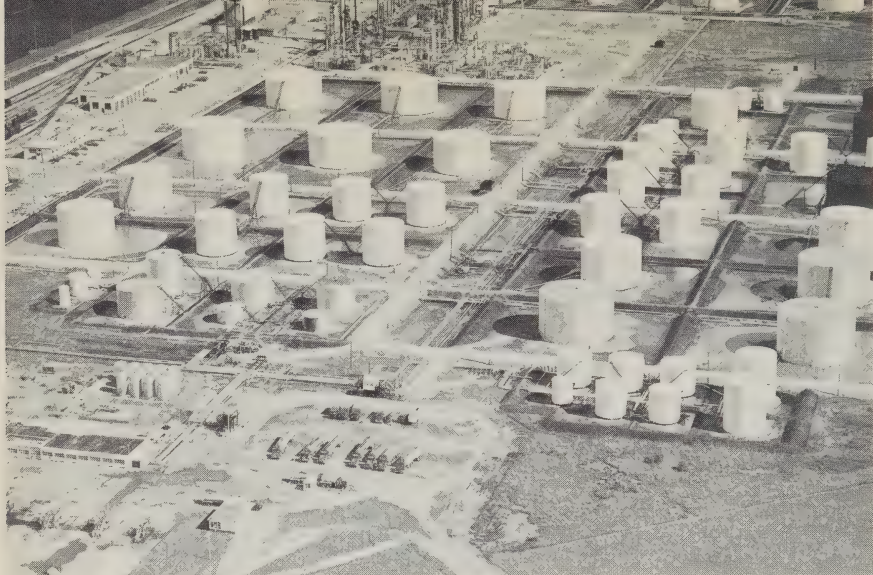
Pre-tax profits of corporations included in the financial statistics of the manufacturing industries averaged 6.9 cents per dollar of sales in 1969, and 6.7 cents in 1968. (These figures are a new series and do not continue any cited in earlier editions of the handbook *Canada*.)

The largest manufacturing industry in 1969 measured by the yardstick of shipments of goods of its own manufacture was motor vehicle makers who accounted for shipments of \$3,276 million, according to a preliminary estimate. The second largest industry was pulp and paper mills, with shipments of \$2,706 million. In 1966 pulp and paper mills made slightly more shipments than did motor vehicle manufacturers. However, the dramatic impact of the Canada-United States Agreement on Automotive Products,

New subcompact cars move down the assembly line in St. Thomas, Ont. The Canadian-American automotive agreement has radically changed Canadian volume of production of both parts and complete vehicles.







The yearly increase of motor vehicles necessitates the refining of more gasoline.

signed in 1965, caused the employment, production, and shipments of Canadian manufacturers of motor vehicles (and of motor vehicle parts and accessories) to increase rapidly. In 1967 motor vehicle manufacture became the leading industry, by shipments, and has retained this position.

The accompanying graph shows the rise in both total shipments and exports of automobiles since 1961. In the earlier part of the period an expanding economy and rising living standards had already stimulated the motor vehicle industry. The combined effect of domestic demand and rapid growth of exports since the commencement of the automotive agreement has almost doubled passenger car output. This expansion has been accompanied by an extensive rationalization of production and an improvement in productivity, both major objectives of the automotive agreement.

**Census of Manufactures.** A complete annual census of manufactures is carried out by the Dominion Bureau of Statistics in addition to monthly surveys which do not necessitate returns from all manufacturers but which make possible estimates of employment and shipments for the manufacturing industries. Although never as up to date as the monthly surveys, the census is comprehensive and includes details on the full range of products for which figures can be collected and published, in addition to a wide selection of valuable information on the manufacturing industries.

The census of manufactures for 1967 recorded 33,267 establishments and 1,652,827 employees, of whom 71 per cent were production and other workers engaged in the manufacturing activity of these establishments, and the remainder in office, administrative, sales and distribution, or other work outside the actual manufacturing activity.

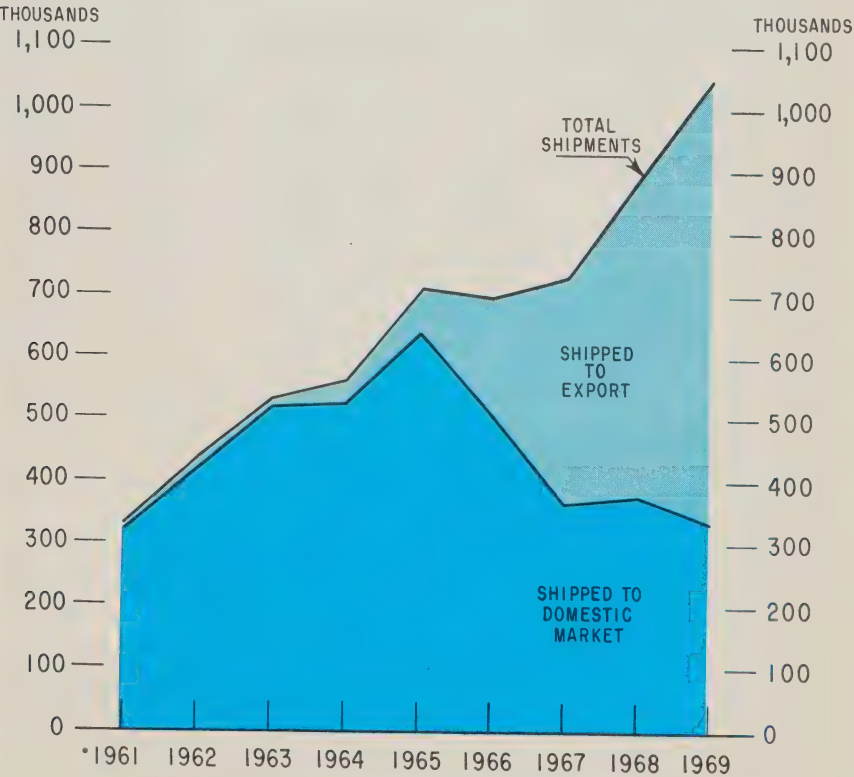
Although there are numerous establishments, many are small, and a relatively limited number of large undertakings account for a high proportion of over-all activity. About one third of all the establishments employed fewer



than five persons, including working owners. By contrast, about one employee in five in the manufacturing industries worked in one of the 156 establishments having 1,000 or more employees.

As has been mentioned, the motor vehicle industry had the largest manufacturing shipments in 1967, followed by pulp and paper mills. The latter, however, had the largest number of employees — 73,983; miscellaneous machinery and equipment came next with a payroll of 48,852, and motor vehicle manufacturers employed 40,861. Of course, many more persons are employed in the production of motor vehicles if one takes into account manufacturers of motor vehicle parts and accessories and the many workers engaged in making tires and tubes, textile products, batteries, and other components of motor vehicles.

Manufacturers' Shipments of Canadian-Made Passenger Cars, 1961-69



# Manufacturing Statistics, by Province and Industry Group, 1967

Province and Group	Total Employees	Salaries and Wages	Value Added by Manufacture	Value of Shipments of Goods of Own Manufacture
	Number	Thousands of dollars		
Province or Territory				
Newfoundland .....	11,620	54,246	86,689	186,056
Prince Edward Island .....	2,253	7,671	15,504	51,083
Nova Scotia .....	33,025	141,729	240,783	610,299
New Brunswick .....	26,770	121,406	210,129	573,897
Quebec .....	524,688	2,739,520	4,855,896	10,966,429
Ontario .....	818,227	4,822,183	9,032,055	20,259,696
Manitoba .....	49,325	241,311	424,923	1,079,730
Saskatchewan .....	15,611	83,558	165,986	479,582
Alberta .....	49,568	272,325	574,219	1,554,985
British Columbia .....	121,594	769,286	1,397,955	3,189,977
Yukon Territory .....	71	380	690	835
Northwest Territories .....	75	575	867	2,821
Canada .....	1,652,827	9,254,190	17,005,696	38,955,389
Industry Group				
Food and beverage industries .....	228,748	1,140,377	2,516,832	7,429,270
Tobacco products industries .....	10,555	59,779	182,369	493,260
Rubber industries .....	26,906	155,953	306,962	584,357
Leather industries .....	31,496	121,760	183,808	369,115
Textile Industries .....	77,360	359,553	601,581	1,404,939
Knitting mills .....	22,814	85,434	143,033	325,543
Clothing industries .....	98,263	356,027	557,730	1,176,755
Wood industries .....	89,873	451,192	733,283	1,675,642
Furniture and fixture industries .....	43,895	201,833	334,784	640,196
Paper and allied industries .....	118,609	781,885	1,434,412	3,231,176
Printing, publishing and allied industries	83,594	497,916	862,082	1,297,275
Primary metal industries .....	112,945	754,681	1,383,609	3,052,537
Metal fabricating industries (except machinery and transportation equipment industries) .....	139,232	817,639	1,404,551	2,732,066
Machinery industries (except electrical machinery) .....	79,171	505,095	736,978	1,516,875
Transportation equipment industries ..	150,215	979,333	1,832,835	4,720,876
Electrical products industries .....	127,561	718,584	1,106,808	2,312,519
Non-metallic mineral products industries .....	51,276	301,482	615,308	1,082,213
Petroleum and coal products industries	15,662	128,781	292,791	1,558,207
Chemical and chemical products industries .....	75,245	488,652	1,193,561	2,268,769
Miscellaneous manufacturing industries	69,407	348,236	582,378	1,083,797

The eight other leading industries, in 1967, by manufacturing shipments were, in descending order: slaughtering and meat-packing plants, petroleum refining, iron and steel mills, dairies, miscellaneous machinery and equipment manufacturers, sawmills and planing mills, motor vehicle parts and accessories manufacturers, and smelting and refining.

As may be seen in the accompanying table, four fifths of all manufacturing plants (by the characteristics measured in the table) are located in Ontario and Quebec. Five census metropolitan areas had manufacturing shipments of more than \$1,000 million each in 1967. In descending order of importance these were, Toronto, Montreal, Hamilton, Vancouver, and Windsor. Together they accounted for about 47 cents of each dollar of shipments of the Canadian manufacturing industries. If Winnipeg and Kitchener — the next two census metropolitan areas — are added, the seven centres account for more than half of the shipments of all goods produced by manufacturing industries.

**Manufacturing Statistics, Selected Years, 1917 to 1969**

Year	Employees	Salaries and Wages	Value Added by Manufacture	Value of Shipments of Goods of Own Manufacture <sup>1</sup>
	Number		Thousands of dollars	
1917.....	606,523	497,802	1,281,132	2,820,811
1920.....	598,893	717,494	1,621,273	3,706,545
1929.....	666,531	777,291	1,755,387	3,883,446
1933.....	468,658	436,248	919,671	1,954,076
1939.....	658,114	737,811	1,531,052	3,474,784
1944.....	1,222,882	2,029,621	4,015,776	9,073,693
1949.....	1,171,207	2,591,891	5,330,566	12,479,593
1953.....	1,327,451	3,957,018	7,993,069	17,785,417
1954.....	1,267,966	3,896,688	7,902,124	17,554,528
1955.....	1,298,461	4,142,410	8,753,450	19,513,934
1956.....	1,353,020	4,570,692	9,605,425	21,636,749
1957.....	1,340,948	4,778,040	..	21,452,343
1958.....	1,272,686	4,758,614	9,454,954	21,434,815
1959.....	1,287,810	5,030,132	10,154,277	22,830,836
1960.....	1,275,476	5,150,503	10,380,148	23,279,804
1961.....	1,352,605	5,701,651	10,434,832	23,438,956
1962.....	1,389,516	6,096,174	11,429,644	25,790,087
1963.....	1,425,440	6,495,289	12,272,734	28,014,888
1964.....	1,491,257	7,080,939	13,535,991	30,856,099
1965.....	1,570,298	7,822,919	14,927,753	33,889,425
1966.....	1,646,024	8,695,890	16,351,740	37,303,455
1967.....	1,652,827	9,254,190	17,005,696	38,955,389
1968.....	1,639,200 <sup>2</sup>	9,845,000 <sup>3</sup>	17,676,000 <sup>4</sup>	40,649,000 <sup>5</sup>
1969.....	1,691,400 <sup>2</sup>	10,858,000 <sup>3</sup>	18,956,000 <sup>4</sup>	43,413,800 <sup>5</sup>

<sup>1</sup> Before 1953, data represent gross value of production.

<sup>2</sup> Based on current data as published in *Estimates of Employees by Province and Industry*.

<sup>3</sup> Based on current data on earnings in manufacturing.

<sup>4</sup> Estimated on the basis of the ratio of "value added by manufacture" to "manufacturing gross output" in earlier years.

<sup>5</sup> Based on the monthly survey of shipments by manufacturers.



## Domestic Trade

Distribution has been defined as the performance of certain business activities essential to the movement of goods and the provision of services from primary and secondary sources to the ultimate consumer. The means by which such movement takes place are known as the channels of distribution. These include retail and wholesale outlets, service industries, manufacturers' sales branches, vending machine operations, direct selling activities such as mail-order and door-to-door selling, and others. The distribution system is dependent on the performance of a complex set of inter-related activities including transportation and communication, buying, selling, advertising, sales promotion, market research, storage, financial management, and so on. These activities are carried out partly by specialized industries and service agencies which serve the distribution system, and partly by the organizations which themselves form the system. The tendency to specialize and to entrust distribution to specialists is greater, however, than the tendency to integrate distributive activities.

The channels of distribution are constantly changing. Specialized agencies, such as data processing services, operations research services, mailing list and contest houses, public relations firms, and market and location research agencies are used to an ever-increasing extent in aiding distribution. Independent store owners are forming voluntary groups to protect their share of the market from the encroachment of chains. Franchising operations are multiplying. Consumer credit is being extended by the increased use of credit cards. The gasoline industry engages in the direct selling and retailing of small appliances and household and sporting goods. Shopping centres are still proliferating in the suburbs, but downtown merchants have begun to combat this trend by building new shopping malls and multi-store, multi-level building developments.

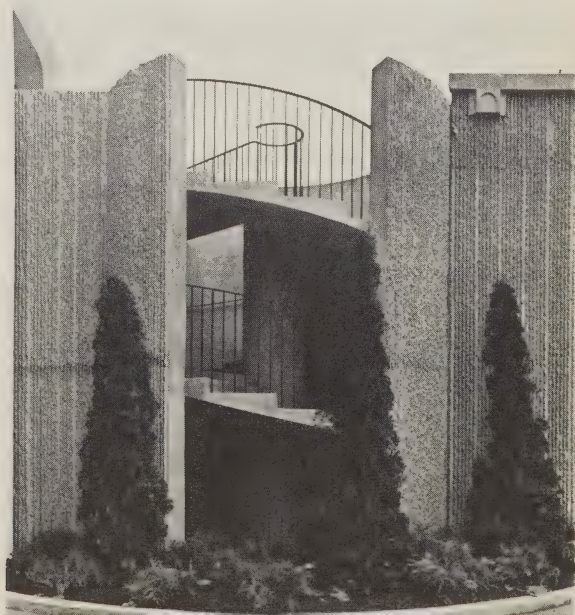
## Retail Trade

**Department Stores.** Over the years, it has become increasingly difficult to establish distinctions between department stores, discount department stores, and variety stores. Furthermore, department stores engage in a number of non-department store activities such as mail-order and catalogue sales. In order to 'purify' the retail sales data of department stores, an entirely new definition for them was adopted by the Dominion Bureau of Statistics in January 1968 which, among other things, treats concessions operating in department stores as part of the store; 1967 sales were re-calculated on the new basis. This is reflected in the table below, in which the sales of department stores only are included rather than department store *establishments*, which include mail-order operations, trading outlets, and other non-department store activities, as in the past.

## Retail Trade, by Province and Kind of Business, 1967-69

Province and Kind of Business	1967	1968	1969	Change 1968-69
	Millions of dollars			Per cent
<b>Province</b>				
Newfoundland .....	446.7	470.7	478.8	+ 1.7
Prince Edward Island .....	105.6	112.1	116.6	+ 4.0
Nova Scotia .....	791.0	866.8	906.9	+ 4.6
New Brunswick .....	604.4	653.8	667.7	+ 2.1
Quebec .....	6,273.6	6,459.9	6,829.9	+ 5.7
Ontario .....	9,022.9	9,806.6	10,572.0	+ 7.8
Manitoba .....	1,110.4	1,146.3	1,204.3	+ 5.1
Saskatchewan .....	1,059.4	1,071.2	1,047.1	- 2.3
Alberta .....	1,885.0	2,028.0	2,198.7	+ 8.4
British Columbia, Yukon and Northwest Territories .....	2,591.1	2,796.5	3,043.3	+ 8.8
<b>Totals</b> .....	<b>23,890.2</b>	<b>25,411.9</b>	<b>27,065.3</b>	<b>+ 6.5</b>
<b>Kind of Business</b>				
Grocery and combination stores.	5,304.1	5,671.4	6,088.1	+ 7.3
All other food stores .....	853.8	887.7	955.3	+ 7.6
Department stores .....	2,157.8	2,376.1	2,657.7	+10.9
General merchandise stores ....	719.6	771.5	857.4	+10.7
General stores .....	848.6	894.6	939.2	+ 4.9
Variety stores .....	525.6	493.5	523.9	+ 6.2
Motor vehicle dealers .....	3,935.7	4,243.4	4,335.8	+ 2.2
Service stations and garages ...	2,170.6	2,331.9	2,454.9	+ 5.3
Men's clothing stores .....	352.7	367.1	391.7	+ 6.7
Women's clothing stores .....	441.2	453.2	478.4	+ 5.6
Family clothing stores .....	330.3	344.3	353.5	+ 2.5
Shoe stores .....	288.8	300.8	308.2	+ 2.5
Hardware stores .....	401.0	416.3	424.2	+ 1.9
Furniture, TV, radio and appliances .....	822.2	859.0	904.9	+ 5.3
Fuel dealers .....	393.9	411.4	422.0	+ 2.6
Drug-stores .....	696.0	729.9	776.3	+ 6.4
Jewellery stores .....	220.9	226.2	235.6	+ 4.2
All other stores .....	3,427.2	3,633.6	3,958.0	+ 8.6

At this department store in the Galeries d'Anjou shopping centre, Montreal, attention has been given to beauty as well as to efficiency.



**Chain and Independent Stores.** In 1969, the total retail sales of \$27,000 million includes \$9,600 million through chains (35.5 per cent), and \$17,400 million through independent stores (64.5 per cent). Sales of chain stores increased by 11.4 per cent over 1968, and sales through independent retailers rose by 4.0 per cent. As has been mentioned, in an effort to hold back the tide of chain store competition, independent retailers in many kinds of businesses have affiliated in voluntary organizations which provide many of the benefits enjoyed by chain-store firms—mass purchasing power, centralized buying, lower advertising costs, and management services.

**Retail Sales, Rates of Growth, and Market Share of Corporate Chain Stores, Independent Stores, and Independent Stores Affiliated in Voluntary Groups in Selected Trades, Canada, 1964 and 1968**

Store Type	Sales in Millions of Dollars		Percent- age Change 1964-68	Percentage Share of Sales	
	1964	1968		1964	1968
Grocery and combination stores					
All stores — total .....	4,355.9	5,671.4	+30.2	100.0	100.0
Corporate chain stores .....	2,057.7	2,756.7	+34.0	47.2	48.6
Independent stores .....	2,298.2	2,914.7	+26.8	52.8	51.4
Voluntary group stores .....	1,017.0	1,801.7	+77.2	23.3	31.8
Non-affiliated stores .....	1,281.2	1,113.0	-13.1	29.4	19.6
Drug-stores					
All stores — total .....	537.6	729.9	+35.8	100.0	100.0
Corporate chain stores .....	63.6	103.3	+62.4	11.8	14.2
Independent stores .....	474.0	626.5	+32.2	88.2	85.8
Voluntary group stores .....	301.9	419.3	+39.0	56.2	57.4
Non-affiliated stores .....	172.2	207.2	+20.4	32.0	28.4
Hardware stores					
All stores — total .....	328.4	416.3	+26.8	100.0	100.0
Corporate chain stores .....	46.7	70.7	+51.3	14.2	17.0
Independent stores .....	281.7	345.7	+22.7	85.8	83.0
Voluntary group stores .....	105.5	241.3	+128.7	32.1	58.0
Non-affiliated stores .....	176.2	104.4	-40.7	53.7	25.0
Variety stores					
All stores — total .....	462.9	493.5	<sup>1</sup>	100.0	100.0
Corporate chain stores .....	384.9	394.2	<sup>1</sup>	83.1 <sup>2</sup>	79.9 <sup>2</sup>
Independent stores .....	78.0	99.3	+27.3	16.8 <sup>2</sup>	20.1 <sup>2</sup>
Voluntary group stores .....	32.1	43.5	+35.3	6.9 <sup>2</sup>	8.8 <sup>2</sup>
Non-affiliated stores .....	45.9	55.8	+21.6	9.9 <sup>2</sup>	11.3 <sup>2</sup>

<sup>1</sup> Not strictly comparable since the 1964 figure includes some department stores operated by variety store chains and the 1968 figure excludes them.

<sup>2</sup> The above footnote affects these figures also; however, although 1964 cannot be compared exactly with 1968, each year's figures provide information independently.

The foregoing table shows that sales in corporate grocery and combination store chains increased from 1964 to 1968 by 34.0 per cent, and sales in independent stores in this category rose by 26.8 per cent. At the same time, sales in voluntary grocery and combination stores rose by 77.2 per cent, and



An abundance of foods are available in Canadian super-markets.



sales in the non-affiliated stores dropped by 13.1 per cent. Thus, in grocery and combination stores, the dollar sales share of voluntary group stores rose from 23.3 per cent in 1964 to 31.8 per cent in 1968, and the share of the non-affiliated independent stores dropped from 29.4 per cent to 19.6 per cent.

A similar pattern may be observed in other trades; if the actual sales of non-affiliated independents did not decline, at least their market share did, and voluntary group stores recorded above-average sales increases and expanded their share of the market. This is attributable in large part to the ever-increasing number of independent stores affiliating themselves with others.

**Shopping Centres.** In examining another development in retailing — suburban shopping centres — it was observed that the number of retail stores (excluding service outlets) rose from 4,674 in 1964 to 6,634 in 1968, an increase of 42 per cent; retail sales rose from \$1,560.0 million to \$2,869.1 million, an increase of 84 per cent, and the share of total retail sales accounted for by shopping centres is estimated to have risen from around 8 per cent to 10.6 per cent.

**Direct Selling.** The most recent available survey on direct selling (the sale of consumer goods through non-retail outlets, excluding department store mail-order catalogue sales) by manufacturers and special agencies is for 1967. It is estimated that direct sales amounted to \$645.6 million in that year, a rise of 31 per cent since 1961. The largest single group remains dairy

products, whose door-to-door sales share dropped from 31.9 per cent in 1961 to 28.9 per cent in 1967. The second largest group is newspapers and magazines, whose share of the total direct sales was 15.6 per cent in 1961, rising to 16.7 per cent in 1967. Also noteworthy are the decline of door-to-door selling of bakery products, sales of which declined by almost 25 per cent from 1961 to 1967, and the increase in direct sales of books and phonographs (by 39 per cent) and cosmetics (by 63 per cent) in the same period.

## Expositions

Annual attendance at Canadian expositions, ranging from the spectacular Man and His World through local home shows to highly technical trade shows, has passed the 10 million mark. In response to a trend toward more regional expositions, new facilities have been opened recently in Halifax, Montreal, Winnipeg, and Vancouver. Trade shows, which increased from 55 in 1965 to over 115 in 1970, tend to become more and more specialized, reflecting the increasing specialization of the industries they serve.

## Service Trade

Changes within the service sector of the economy can best be measured and analyzed through census results, since intercensal surveys provide only partial coverage of this large and diverse field. In 1966, amusement and

Trade shows, such as this of snow equipment in the Place Bonaventure, Montreal, attract crowds of visitors.



recreation services, business services, personal services, repair services, hotels and restaurants, and other miscellaneous trades together accounted for total receipts of over \$4,587 million. (This does not include medical and health services, educational services, legal services, and transportation services which are not part of the census of merchandising and services, nor does it include automobile repair services which are included under retail trade, nor some lesser areas.) From 1961 to 1966, the service trades developed at a faster rate than either personal disposable income or personal consumer expenditure. The 53.9 per cent increase in the service trade was also greater than the 41.2 per cent growth in retail sales during the same period.

### Service Trades, by Kind of Business Grouping Canada, 1961-66

Kind of Business Group	1961	1966	Change 1961-66
	Thousands of dollars		Percentage
Amusement and recreation group .....	253,290.5	441,905.5	+74.5
Business services group .....	272,684.0	492,387.6	+80.6
Personal services group .....	406,974.2	596,480.7	+46.6
Repair services group <sup>1</sup> .....	64,760.2	65,572.2	+ 1.3
Hotel, tourist camp and restaurant group ...	1,660,787.8	2,397,258.4	+44.3
Miscellaneous services group .....	321,353.1	593,397.0	+84.7
<b>Total, all services .....</b>	<b>2,979,849.8</b>	<b>4,587,001.4</b>	<b>+53.9</b>

<sup>1</sup> Excludes automotive, appliance, and jewellery repairs.

## Consumer Credit

Consumer credit refers to advances made for personal, non-commercial purposes, either in the form of cash or as credit against specific purchases of consumer goods under contractual sales agreements, and does not include residential mortgages, home improvement loans, fully secured bank loans, fees owing to professionals such as doctors and lawyers, loans from stock-brokers and investment dealers, credit extended for services supplied by hotels, travel and transportation agencies, public utilities, and the probably sizable amounts of inter-personal loans. Consumer credit is expanding and, at the end of 1969, outstanding balances amounted to \$10,837 million, a 13.1 per cent increase over 1968.

The share of total consumer credit extended by retail dealers and other vendors has diminished over the years from 46.7 per cent in 1960 to 27.3 per cent in 1969, while the share of consumer credit extended by banks and cash loans made by other lending institutions has grown; the cash loans of banks have increased even more sharply than those extended by other lending institutions. A contributing cause to the diminished share of consumer credit held by other vendors for instalment sales of goods is the decline of the practice of financing motor vehicles through sales finance and consumer loan companies' conditional sales contracts and its replacement by the



practice of paying for motor vehicles in cash — probably borrowed from lending institutions.



Credit cards, issued by companies and now by banks, are lessening the need of many Canadians to carry large amounts of cash.

### Consumer Credit: Balances Outstanding, 1960-69, by Selected Holders

Year	Total	Annual Increase	Retail Dealers <sup>1</sup>	Other Vendors <sup>2</sup>	Cash Loans: Banks <sup>3</sup>	Other Cash Loans <sup>4</sup>
		Percentage	Millions of dollars			
1960.....	4,020	—	960	916	863	1,281
1961.....	4,250	+ 5.7	1,005	838	1,039	1,368
1962.....	4,694	+10.4	1,039	902	1,196	1,557
1963.....	5,270	+12.3	1,088	982	1,446	1,754
1964.....	6,056	+14.9	1,147	1,148	1,808	1,953
1965.....	6,943	+14.6	1,216	1,270	2,257	2,200
1966.....	7,556	+ 8.8	1,260	1,346	2,474	2,476
1967.....	8,372	+10.7	1,286	1,287	2,994	2,805
1968.....	9,584	+14.5	1,329	1,352	3,686	3,217
1969.....	10,837	+13.1	1,415	1,543	4,171	3,708

<sup>1</sup> Includes both charge accounts and instalment credit of department stores, furniture and appliance stores, etc.

<sup>2</sup> Includes instalment sales credit extended by sales finance and consumer loan companies and oil companies' credit cards.

<sup>3</sup> Personal cash loans (other than those fully secured, and home improvement loans) extended by chartered banks and Quebec savings banks.

<sup>4</sup> Includes personal cash loans extended by consumer loan companies, credit unions and *Caisses populaires*, and policy loans of life insurance companies.

## Wholesale Trade

For statistical purposes, wholesalers are classified into five types: wholesale merchants (who accounted for 56 per cent of total wholesale sales of \$19,740 million in 1961), agents and brokers, manufacturers' sales branches, assemblers of primary products, and petroleum bulk tank stations.

### Wholesale Trade, Sales, 1961 and 1969

Kind of business	Sales		Change 1969/1961
	1961	1969	
	Millions of dollars		Percentage
<b>Total, all trades</b> .....	<b>11,048.7</b>	<b>18,046.1</b>	<b>+ 63.3</b>
Consumer goods trades .....	5,397.8	8,561.7	+ 58.6
Automotive parts and accessories .....	469.6	816.1	+ 73.8
Motor vehicles .....	237.1	334.6	+ 41.1
Drugs and drug sundries .....	265.6	451.7	+ 70.1
Clothing and furnishings .....	190.2	201.0	+ 5.7
Footwear .....	39.8	43.9	+ 10.3
Other textiles and clothing accessories ..	246.1	343.4	+ 39.5
Household electrical appliances .....	252.6	458.1	+ 81.3
Tobacco, confectionery and soft drinks ..	501.9	758.3	+ 51.1
Fresh fruits and vegetables .....	281.3	454.0	+ 61.4
Meat and dairy products .....	231.8	510.8	+120.4
Floor coverings .....	84.7	120.9	+ 42.7
Groceries and food specialties .....	1,735.8	2,883.9	+ 66.1
Hardware .....	436.9	512.6	+ 17.3
Consumer goods residual .....	424.4	672.3	+ 58.4
Industrial goods trades .....	5,650.9	9,484.5	+ 67.8
Coal and coke .....	69.5	68.3	- 1.7
Grain .....	1,096.9	1,247.9	+ 13.8
Electrical wiring supplies, construction materials, apparatus and equipment ...	170.4	322.9	+ 89.5
Other construction materials and supplies including lumber .....	1,368.3	2,374.8	+ 73.6
Farm machinery .....	390.1	597.3	+ 53.1
Industrial and transportation equipment and supplies .....	826.0	1,814.3	+119.6
Commercial, institutional and service equipment and supplies .....	196.8	416.3	+111.5
Newsprint, paper and paper products ...	197.5	408.1	+106.6
Scientific and professional equipment and supplies .....	108.1	268.3	+148.2
Iron and steel .....	369.0	633.8	+ 71.8
Junk and scrap .....	198.1	405.6	+104.7
Industrial goods residual .....	660.2	927.0	+ 40.4

## Co-operatives

The co-operative movement is represented in all ten provinces of Canada. It was most readily adopted in the rural areas of the country where there were no marketing facilities for farm produce or farmers were dissatisfied with the prevailing marketing practices. Because of this, the movement remains predominantly agricultural. It is only in the past decade that significant progress has been made in the urban sector with the establishment of co-operative supermarkets and shopping centres. Most co-operatives are

incorporated under provincial legislation; a few of the larger ones whose activities span provincial boundaries are incorporated under the Canada Corporations Act or special federal acts. Co-operative business organizations are generally classified in three types: marketing (for example, dairy co-operatives, which receive milk from their farmer-members and sell it for them); purchasing (grocery co-operatives, which purchase food supplies and sell them to members); and service (transportation co-operatives, which truck their members' produce to market for a fee). Some of the marketing and purchasing co-operatives also engage in manufacturing. In addition to the regular or local co-operatives (those directly owned by the members), there are eight co-operative wholesales which serve as distributors and central marketing agencies for the locals.

Total business volume of 2,469 local co-operatives with 1.7 million members amounted to \$2,133 million in 1968. Assets totalled \$1,180 million. Business volume included marketings of farm products (\$1,336 million); sale of merchandise and supplies (\$717 million); service revenue (\$66 million); and miscellaneous income (\$14 million). The main farm products were grains and seeds (\$576 million); dairy products (\$346 million); and livestock and products (\$258 million). Food products were the principal supply item (\$208 million), followed by feed and petroleum (\$150 million and \$108 million respectively). As in previous years, Saskatchewan was the leading marketer of farm products and Quebec led in the retailing of merchandise and supplies.

The eight co-operative wholesales recorded total sales of \$560 million for 1968, consisting of sales of \$363 million worth of supplies and marketings of \$197 million worth of farm products. Food, livestock, and feed were the most important sales categories at \$106 million, \$88 million, and \$81 million respectively.

The Eskimo and Indian people of Canada have increasingly participated in co-operative development programs, which encourage the making of native handicrafts. In 1968, 36 Arctic co-operatives serving 1,500 families recorded sales of \$2.4 million, and the sales of 123 Indian co-operatives with 7,800 members amounted to \$5 million.

Two important national co-operative bodies work together to improve co-operative organization, education, and promotion. The Co-operative Union of Canada concentrates its efforts in English-speaking areas while the *Conseil canadien de la coopération* serves co-operatives in French-speaking areas.

A number of Canadian universities offer courses on co-operatives and some conduct extension work in this field. The most prominent is St. Francis Xavier University in Nova Scotia which, since the early 1930's, has carried on extension work in the Maritime Provinces to organize and assist co-operatives. In more recent years, university courses have been instituted, both short term for co-operative management and personnel, and as a regular part of the university curriculum. The Coady International Institute was established at St. Francis Xavier University in 1960 and has been providing instruction in co-operative principles and organization to non-Canadian students, mainly from developing countries where the self-help nature of co-operative organizations has been found to be most appropriate.



Western Co-operative College in Saskatchewan provides short courses for co-operative personnel as well as training courses for foreign students. The *Institut coopératif Desjardins* in Quebec specializes in social leadership and adult education for Quebec residents engaged in co-operatives and for foreign students.

## Consumer and Corporate Affairs

A hundred years ago, Canada had a village economy — goods and services were produced or supplied locally, distributed locally and consumed locally. There was a close, personal relationship between producer and consumer which was self-correcting and self-regulating in the classic free-enterprise way.

Today, all this has changed. The economy is now one of mass production, mass distribution, mass marketing, and mass consumption. While these developments have produced many benefits, they have also created a marketplace in which the individual consumer or investor, the individual producer or supplier, often has very little influence or control.

In December 1967, the Department of Consumer and Corporate Affairs was created to serve the interest of the Canadian consumer, whose demand for goods and services is the foundation of our economy, as well as to foster a climate in which business can prosper in a free market system. Canada then became the only country in the world with a single department of national government that brings together under one cabinet portfolio the inter-related consumer protection programs, the corporation-regulating functions of the government, and the policies to ensure the maintenance of internal competition. The Department of Consumer and Corporate Affairs has three distinct units, the Bureau of Consumer Affairs, the Bureau of Corporate Affairs, and the Office of the Director of Investigation and Research under the Combines Investigation Branch.

The Bureau of Consumer Affairs was created to promote the welfare of consumers and help Canadians to be better consumers in their own right. In fulfilling this responsibility, the Bureau promotes protection of the consumer against fraud and deception in the marketplace and protection against unsafe or hazardous products. It strives to increase the effectiveness of the consumer's choice by ensuring that he can rely on the information he is given in the marketplace and by stimulating a free flow of complete and accurate information from business and government about goods, services, prices, and trade practices. Branches within the Bureau of Consumer Affairs include Consumer Research, Standards, Operations and Consumer Services.

Included in a total of 562 employees are many engaged in retail inspection services in 26 municipalities across Canada. There are five regional offices in Halifax, Montreal, Toronto, Winnipeg, and Vancouver, each with a consumer consultant to assist Canadian consumers with any problems. In addition, the Bureau maintains a mailing address, *The Consumer*, Box 99, Ottawa, where consumers with complaints, enquiries, or suggestions may write for assistance.

The Bureau of Corporate Affairs consists of branches dealing with bankruptcy, corporations, patents and copyrights, trademarks, and the registration of all official documents.

The Office of the Director of Investigation and Research under the Combines Investigation Act is set up to promote competition in business and to protect consumers against certain deceptive business practices including misleading advertising. Branches which report to the Office of the Director include the Combines Branch, the Merger and Monopoly Branch, the Trade Practices Branch, and the Research Branch.

## Consumer Price Index

Between 1968 and 1969 the Consumer Price Index rose by 4.5 per cent marking the largest annual increase since the Korean war. In the five-year period ending 1969 the index advanced by 19.8 per cent or by an annual average of 3.7 per cent for a drop of 16.5 cents to 83.5 cents in the purchasing power of the 1964 consumer dollar.

### Annual Average Rates of Increase in the Consumer Price Index and Major Components, 1965-69

Index	1965	1966	1967	1968	1969	5-year Average
Percentage						
All items .....	2.5	3.7	3.6	4.1	4.5	3.7
Food .....	2.6	6.4	1.3	3.3	4.2	3.6
Housing <sup>1</sup> .....	1.8	2.7	4.3	4.6	5.1	3.7
Clothing .....	1.8	3.8	5.0	3.0	2.8	3.3
Transportation .....	3.8	2.4	4.2	2.6	4.6	3.5
Health and personal care .....	4.6	3.1	5.2	4.0	4.9	4.4
Recreation and reading .....	1.6	2.8	5.1	4.9	5.9	4.1
Tobacco and alcohol .....	1.6	2.4	2.6	9.0	3.8	3.9

<sup>1</sup> Includes shelter and household operation.

Since 1964, the average annual increase of the two most important components, food and housing, closely paralleled the advance in the all-items index by rising, on average, 3.6 and 3.7 per cent, respectively. The other major components registered five-year average increases ranging from 3.3 per cent for clothing to 4.4 per cent for health and personal care.

Consumer price movements classified by commodities and services offer another view of the incidence of change in prices. Between 1968 and 1969 the commodities index advanced by 3.4 per cent, while services advanced by 5.8 per cent. This is in line with the five-year trend in which the commodities index rose by an average of 3.0 per cent a year and services by 4.7 per cent. Within the commodities group, durables rose 1.1 per cent (five-year average, 1.3 per cent) while non-durables moved up by 3.9 per cent (3.3 per cent). The index for total services excluding shelter increased by 6.9 per cent between 1968 and 1969, and by an average of 5.6 per cent between 1964 and 1969.

# International Trade

The uninterrupted growth of Canada's foreign trade over the past decade continued in 1969. Total trade rose from \$25,963 million in 1968 to the record mark of \$29,071 million. Total exports (including re-exports) advanced by over 9 per cent, from \$13,605 million to \$14,869 million, a new record. Imports also reached a new high, but rose at a slower rate of increase than in the recent past; they amounted to \$14,202 million, an increase of 14.9 per cent over the 1968 figure of \$12,358 million. Imports rose more rapidly than exports, however, and the 1969 balance of trade was slightly over half of that for 1968, reaching only \$668 million.

## Foreign Trade of Canada, 1963-69

Year	Exports		Imports	Total Trade	Balance of Trade
	Domestic	Re-exports			
Millions of dollars					
1963.....	6,798.5	181.6	6,980.1	13,538.4	+ 421.9
1964.....	8,094.2	209.2	8,303.4	15,791.1	+ 815.7
1965.....	8,525.1	241.6	8,766.7	17,399.8	+ 133.5
1966.....	10,070.6	254.7	10,325.3	20,397.2	+ 253.4
1967.....	11,111.6	299.3	11,410.9	22,282.8	+ 539.0
1968.....	13,251.0	354.1	13,605.0	25,963.0	+1,247.1
1969.....	14,441.6	427.6	14,869.2	29,070.9	+ 667.6

During 1968 the United States continued to be the top trading nation of the world. Next to it in order of importance were West Germany, the United Kingdom, France, Japan, and Canada. In exports however, Canada ranks fourth highest in the world, slightly ahead of France and Japan.

## Trends in Canadian International Trade

As noted earlier, Canada's foreign trade during 1969 reached new highs, with exports and imports rising by 9 and 14.9 per cent respectively over 1968. Despite governmental efforts to curb inflation, domestic demand remained high and may have had some adverse effect on Canadian exports. Demand in foreign markets, however, remained relatively strong during the year. Export prices were up by 4.4 per cent over 1968; the previous annual increase was 3.6 per cent. Import prices, on the other hand, rose by 3.6 per cent during 1969 against an increase of 1.6 per cent in 1968. These price increases, along with the slower rise of exports, accounted for the substantial decline in Canada's trade surplus in 1969.

## Exports

During 1969 domestic exports (as opposed to total exports) advanced by almost 9 per cent to \$14,442 million. Many of the major fields showed





Grain elevators at Thunder Bay, Ont. Great quantities of grain and lumber pass through this port on Lake Superior.

substantial decreases which, however, were more than offset by a 26 per cent increase in exports of inedible end-products, and an increase of over 6 per cent in inedible fabricated materials. Decreases were recorded of approximately 9 per cent in food, feed, beverages, and tobacco, and of over 8 per cent in live animals; inedible crude materials remained almost unchanged. Among the major commodity groupings, motor vehicles and parts (including passenger automobiles and chassis, motor vehicle parts and engines, and other vehicles) rose by 31 per cent to \$3,503 million. The slower rate of growth in this area — 179 per cent in 1966, 74 per cent in 1967, and 55 per cent in 1968 — is attributable to the adjustment that came about in the Canadian and U.S. auto industries as a result of the automotive agreement of 1965. In the process, motor vehicles and parts displaced wheat and newsprint, the traditional leaders in Canadian exports. Newsprint paper, the second most important export product, advanced by almost 14 per cent to \$1,126 million. The United States, Britain, and Australia accounted for the greater part of the sales of this product. Woodpulp and similar pulp exports have become the third most important export product, because of healthy

increases during the past two years. Woodpulp exports in 1969 reached \$753 million, an increase of 20 per cent over the previous year. The greatest part of the increase was due to larger shipments to the United States and to Japan. Exports of softwood lumber rose by over 6 per cent to \$665 million in 1969. Shipments to the United States increased considerably but those to other traditional customers such as Japan and Britain showed decreases. American purchases of Canadian crude petroleum accounted for all of Canada's exports of this item. These shipments increased by almost 18 per cent during 1969 to reach \$526 million. Shipments of aluminum and alloys rose by nearly 7 per cent to \$475 million. Almost half of this amount went to the United States, and the balance to Britain, Japan, and South Africa.

Wheat, which used to be the top export item, lost ground again in 1969, dropping to seventh place from third in 1968 and first in 1966. The world oversupply of this commodity brought about a drop in its price. More important, however, is the fact that shipments to most of Canada's customers declined considerably; total wheat exports during the year were only \$473 million, a decrease of nearly 31 per cent. Among the more important customers who purchased less wheat during the year were Britain, Japan, the People's Republic of China, and the Soviet Union. Production shutdowns and industrial disputes caused sales abroad of iron ores and concentrates to

### Principal Domestic Exports, 1965-69

Commodity	1965	1966	1967	1968	1969
Thousands of dollars					
Motor vehicles and parts .....	355,975	993,596	1,730,068	2,671,856	3,503,290
Passenger automobiles and chassis .	148,643	429,624	879,395	1,381,918	1,794,742
Motor vehicle parts, except engines	128,444	252,858	365,104	556,154	722,935
Other motor vehicles .....	34,530	173,257	326,662	487,073	696,348
Motor vehicle engines and parts ....	44,358	137,857	158,907	246,711	289,265
Newsprint paper .....	869,586	968,224	955,261	989,831	1,125,801
Woodpulp (and similar pulp) .....	493,501	520,068	543,433	627,874	753,488
Lumber, softwood .....	457,967	439,569	474,604	623,414	664,759
Crude petroleum .....	279,956	321,681	397,875	446,413	525,780
Aluminum, including alloys .....	360,965	372,275	398,910	445,128	474,752
Wheat .....	840,175	1,060,670	741,878	684,469	472,703
Iron ores and concentrates .....	360,819	369,009	383,063	443,202	333,131
Copper and alloys .....	194,850	266,067	336,723	378,216	300,904
Copper in ores, concentrates and scrap	77,831	130,898	157,464	233,343	233,727
Nickel and alloys .....	207,864	212,433	229,297	245,433	226,079
Nickel in ores, concentrates and scrap	189,336	186,725	203,981	261,030	225,312
Asbestos, unmanufactured .....	158,657	182,484	172,397	192,896	216,275
Whisky .....	116,983	127,508	141,514	158,253	189,074
Natural gas .....	104,280	108,750	123,664	153,752	176,188
Fertilizers and fertilizer materials ....	111,831	139,560	154,623	168,882	171,918
Other communication and related equipment .....	62,457	80,097	97,894	164,665	169,266
Aircraft parts, except engines .....	53,250	118,090	183,312	199,751	159,665
Aircraft engines and parts .....	48,521	72,658	94,307	107,288	102,718
Zinc in ores, concentrates and scrap ..	69,849	77,745	94,126	99,593	102,611
Metal fabricated basic products .....	43,039	52,595	57,404	70,307	84,903
Fish fillets and blocks, fresh or frozen	65,002	69,071	65,349	77,461	82,922
Firearms, ammunition and ordnance ..	11,369	32,198	60,389	72,415	78,713



drop by almost 25 per cent from 1968. Exports of copper and alloys were down by nearly 21 per cent; copper in ores, concentrates, and scrap, on the other hand, remained practically unchanged from the levels of the previous year. During 1969, there were decreases in exports of nickel and alloys (8 per cent) and nickel in ores, concentrates, and scrap (14 per cent) also owing to industrial disputes. Exports of unmanufactured asbestos increased by 12 per cent, whisky by 20 per cent, and natural gas by 15 per cent.

In short, while exports of some of the major commodities were down sharply during 1969, the declines were more than offset by increases in other exports.

## Imports

Manufactured goods constitute over three fifths of Canadian imports, and another fifth is made up of fabricated products that undergo further processing in Canada before they are ready for consumption. The most important import item for many years has been motor vehicles and parts, which increased in 1969 by almost 22 per cent to a total of \$3,646 million. The greatest part (91 per cent) of this particular category of imports originated in the United States, but Britain, West Germany, and Japan competed closely for the balance of the Canadian market. Imports of crude petroleum were second in importance with a value that reached \$393 million, up almost 6 per cent from 1968; over 70 per cent of the imports of this commodity came from Venezuela. In third place were aircraft, the imports of

A long train is wrapped around the port at Roberts Bank, B.C., like a necklace. Three 88-car Canadian Pacific unit trains shuttle 1,400 miles on a round trip between coal mines and port.





which dropped by over 13 per cent from 1968 to \$203 million in 1969. Other important commodities or groups of commodities in the import list were communications and related equipment at \$202 million, up by 22 per cent from 1968, followed by miscellaneous equipment and tools with a value of \$176 million, up 23 per cent for the year. There were also other inedible end-products, such as electronic computers and plate, sheet, and strip steel. Despite tight monetary policies in 1969, a continuing strong domestic demand is evidenced by increased imports of most major commodity groups.

### Principal Imports, 1965-69

Commodity	1965	1966	1967	1968	1969
Thousands of dollars					
Motor vehicles and parts .....	1,124,781	1,580,655	2,168,363	3,000,856	3,645,880
Motor vehicle parts, except engines	683,025	844,995	998,257	1,342,300	1,764,793
Closed sedans, new .....	196,159	348,632	669,706	940,986	989,820
Motor vehicle engines .....	54,927	111,749	144,509	244,462	313,491
Trucks, truck tractors and chassis ..	29,788	69,954	120,731	167,501	247,955
Motor vehicle engine parts .....	80,797	91,823	91,344	109,849	127,078
Other motor vehicles .....	37,925	51,006	54,218	72,465	83,485
Other passenger automobiles and chassis .....	18,112	28,970	41,823	64,443	66,066
Convertible automobiles, soft top, new .....	24,048	33,526	47,775	58,850	53,192
Crude petroleum .....	312,259	299,001	355,416	372,586	393,453
Aircraft complete with engines .....	76,400	73,037	147,509	233,704	202,649
Other communications and related equipment .....	94,230	139,410	153,972	166,023	201,933
Miscellaneous equipment and tools ...	105,001	119,551	130,366	143,697	176,411
Other end-products .....	84,022	100,925	130,925	152,066	161,161
Electronic computers .....	50,510	93,495	115,902	108,606	160,527
Plate, sheet, and strip steel .....	155,745	117,008	117,230	103,175	155,519
Other measuring laboratory equipment	95,169	94,815	113,134	127,440	153,680
Organic chemicals .....	106,649	106,571	116,003	129,036	138,030
Other chemical products .....	80,189	86,978	99,287	112,194	134,683
Fuel oil .....	109,395	102,775	119,824	142,497	131,436
Books and pamphlets .....	68,597	77,905	96,232	105,392	122,344
Plastics materials, not shaped .....	68,972	74,140	80,868	99,433	114,830
Aircraft parts, except engines .....	69,233	83,350	109,965	115,944	112,282
Machine tools, metalworking .....	91,573	97,649	101,210	82,008	110,637
Other photographic goods .....	59,051	68,732	94,730	93,329	108,709
Other office machines and equipment	59,144	78,671	88,971	91,447	107,226
Aluminum ores, concentrates and scrap	69,871	76,623	74,587	83,668	102,942
Meat, fresh, chilled, or frozen .....	26,539	39,609	40,257	47,975	98,612
Other iron and steel and alloys .....	41,545	63,269	61,472	64,608	98,085
Tractor engines and tractor parts .....	69,120	76,884	80,750	75,573	93,554
Television and radio sets, phonographs	29,028	41,956	56,200	68,168	92,343
Aircraft engines and parts .....	60,698	70,842	103,590	87,386	85,850

### Leading Trade Partners

During 1969, slightly less than three quarters of Canada's trade was conducted with the United States; 71 per cent of Canada's exports went to that country, and nearly 73 per cent of its imports came from there. In 1965, these relative shares stood at 57 per cent and 70 per cent respectively, an indication

of Canada's growing dependence on American trade. Britain, Canada's second largest trading partner, accounted for less than 8 per cent of its exports and for less than 6 per cent of its imports. During the preceding five years, Canadian exports to Britain have remained almost unchanged in absolute terms; as a percentage, however, Britain's share of Canada's exports has diminished progressively from 14 per cent in 1965 to 7 per cent in 1969. On the other hand, Canada's imports from Britain have increased at a rate slightly below the rate of growth of total imports, making that country's share slightly smaller than the 7 per cent it held in 1965. Exports to Japan, Canada's third largest market, accounted for over 4 per cent of the total in 1969.

Other major markets for Canadian goods were West Germany, the Netherlands, Australia, Italy, France, the People's Republic of China, Belgium and Luxembourg, and Norway; each purchased over \$100 million worth of goods during 1969.

From the standpoint of growth, the largest increase among major customers for Canada's exports between 1968 and 1969 was to France, with a rise of 53 per cent accounted for largely by increased purchases of base metals. The second largest increase (21 per cent) was in trade with West Germany. The Netherlands and Japan followed. On the other hand, there were noticeable reductions in purchases by the People's Republic of China (25 per cent) and Australia (12 per cent).

Among the leading suppliers to Canada other than the United States and Britain were Japan, West Germany, Venezuela, France, and Italy, in that order; each supplied over \$100 million worth of goods in 1969.

The largest increase in Canadian imports from the major supplying countries was from Japan (38 per cent). This increase was mainly due to larger purchases of automobiles and accessories, which rose from \$32 million in 1968 to \$71 million in 1969, and of radios, television sets, and phonographs which advanced from \$28 million to \$37 million. Purchases from France were 26 per cent above the 1968 level. Italy, West Germany, and Sweden also supplied Canada with larger amounts of goods during 1969 with advances of 23, 18, and 8 per cent respectively. Among the other important suppliers to Canada, the only country shipping less in 1969 was Venezuela which showed a decline of over 3 per cent. Canadian trade with the European Economic Community (EEC) increased considerably in 1969; exports were up by almost 12 per cent to \$851 million and imports rose by over 19 per cent to \$719 million. The larger increases in Canadian exports to EEC countries were those to France, which rose from \$81 million to \$124 million, and those to West Germany, which rose from \$229 million to \$277 million. The major contributors to the increase in imports were France which went from \$122 million in 1968 to \$154 million in 1969, followed by Italy which rose from \$114 million to \$141 million, and by West Germany with sales to Canada increasing from \$299 million to \$355 million. Smaller increases were recorded in imports from Belgium and Luxembourg and the Netherlands.

Trade with other areas, notably Latin America, also advanced during the





A shipment of newsprint leaves the harbour of Baie Comeau, Que., for New York.

year. Exports to this trading area went up from \$402 million to \$443 million, a 10 per cent increase, while imports originating in the Latin American countries advanced by only 3 per cent from \$482 million to \$497 million.

## Balance of International Payments

The balance of payments which measures the transactions between Canadians and foreigners is divided into two accounts, "current account" transactions, representing movements of goods and services, and "capital account" transactions, representing capital flows for investment and other financial purposes. Canada's imports of goods and services have consistently exceeded her exports, resulting in current account deficits. These deficits have been offset by very significant capital inflows, as foreign capital has helped to balance Canada's international payments.

Capital investment from abroad not only has served to offset the current account deficit, but, by assisting in the development of Canada's industrial potential, has strengthened the country's ability to export a broader range of goods. In the past, foreign capital was frequently channelled into the



development for export of Canada's natural resources, which were subsequently processed abroad into end-products. Consequently, Canada tended to export primary and extracted products, such as wheat and minerals, and import many of the manufactured goods required domestically. As late as 1964, primary and semi-finished products represented over 80 per cent of total exports. Since 1964, however, Canada's merchandise trade has changed significantly and in 1968 and 1969 the excess of exports over imports reached the highest levels since the Second World War. The automotive agreement with the United States, signed in 1965, provided a limited form of free trade between Canada and the United States in automotive products. As a result, exports of motor vehicles and parts in 1969 reached \$3,500 million, or 24 per cent of total exports; before the agreement in 1964 these amounted to \$190 million, only 2 per cent of all exports. Imports of automobiles and parts also increased during this period, but by 1969 the trade deficit on automotive products had been reduced. The period from 1965 to 1969 saw automotive products emerge as the largest single item in the merchandise trade account.

The impetus given to Canada's exports by the auto agreement was reinforced by large wheat sales between 1964 and 1968 to mainland China and the Soviet Union after their crops failed. A return to more normal trade in wheat with these countries has not been offset by increased sales in 1969 to other countries and a world oversupply has lowered prices, thus reinforcing the decline in the value of wheat sales abroad. Sales in 1969 were valued at \$473 million whereas in 1964 and 1966 they were over \$1,000 million. This decline has significantly affected Canada's merchandise trade account. In addition to merchandise trade, payments and receipts for services are recorded in the current account. These items form an important part of Canada's transactions with foreigners. In 1969 service payments amounted to \$5,600 million while receipts totalled \$4,000 million. The principal service accounts relate to travel, interest and dividends, and freight and shipping.

Carrier equipment from Canada has been installed in the new micro-wave system operated by Philippine Long Distance Telephone Co.



The largest element in the deficit from non-merchandise transactions has been interest and dividend payments, reflecting part of the cost of financing the accumulated current account deficits of earlier years. As foreign investment in Canada has grown, so have payments to non-residents of dividends and interest, resulting in net outflows of almost \$1,000 million annually. Large parts of the income accruing to non-residents have been retained for investment in Canada, while some of the newer developments may not have matured to the point where income remittances have been generated.

Growing foreign investment has also brought about increasing payments by branch and subsidiary companies for administrative and other services supplied from abroad. Net payments of this kind, including those between unaffiliated business organizations, have been rising and are now approaching \$400 million annually.

Payments relating to freight and shipping services and aid to developing countries both result in outflows of funds. The deficit in freight and shipping may be attributed largely to payments for the shipment of seaborne cargo, as nearly all payments for non-coastal shipping go to foreign companies. In the years immediately following the Second World War, the existence of a Canadian merchant fleet coincided with surpluses on the freight and shipping account. It should be recognized, however, that overseas shipping represents only a part of the freight and shipping account, which includes shipment also by rail, truck, air, and coastal shipping. The increased deficit in the freight and shipping account in recent years has generally been in line with the over-all growth in Canada's international trade. All other transactions, including official contributions for foreign aid programs, gave rise to net outflows of more than \$650 million in 1969.

Over the years the relative importance of Canada's traditional trading partners has changed. The proximity of the United States, the largest industrial power in the world, makes it the largest buyer and seller of goods with Canada. Moreover, the proportion of total trade transacted with the United States has risen from almost 60 per cent in 1946 to over 70 per cent in 1969. Historical ties with Britain have been strengthened by economic links, and trade with Britain is next in importance to that with the United States. Britain's position, however, is being contested. Merchandise trade with Japan has grown steadily, while trade with the United Kingdom has fallen from 10.4 per cent of total Canadian imports and exports in 1965 to 6.6 per cent in 1969. This is perhaps a reflection of Canada's growing awareness of its position as a "Pacific-rim" nation, as well as the increase in industrial production of these trading areas since 1945 and austerity measures in Britain. Canada's investment of over \$22 million in Expo 70 at Osaka, Japan, is indicative of the developing links with countries in Asia.

The financing of external deficits on current account has been accomplished for the most part with relatively small changes in Canada's official international reserves. The current account deficit has been met in large part by the sale of new bonds and stocks in foreign markets, principally the United States, and by direct investment in Canadian industry by non-residents.



However, Canada's international financial position in recent years has experienced several severe but short-lived shocks. The crisis of confidence in the Canadian dollar in 1962 was resolved by remedial measures taken by the Canadian authorities with international assistance. The adverse reaction on the Canadian financial markets of the introduction in 1963 of special tax measures by the United States aimed at improving their balance of payments position was lessened when an exemption for the sale of new Canadian issues in the United States was negotiated. Subsequent modifications and extensions to the United States balance of payments program revived concern in Canada, particularly in the early part of 1968, but working arrangements were made between the two governments. At the same time, however, the application of these agreements has imposed some constraints on Canadian financial and economic policy.

## International Investment

The substantial growth in the investment of foreign capital in Canada during the past decade has been the principal factor in increasing Canada's net international indebtedness from \$10,000 million at the end of 1956 to about \$24,000 million at the end of 1966, roughly \$1,200 for every man, woman, and child in Canada. In the latter year, Canada's gross external

Halifax, like other East Coast ports, is equipped to handle container shipments.







The harbour of Montreal East.

### Canadian Balance of International Payments

	1965	1966	1967	1968	1969
	Millions of dollars				
<b>Current Receipts</b>					
Merchandise exports .....	8,745	10,326	11,338	13,538	14,886
Non-merchandise receipts					
Gold production available for export .....	138	127	112	120	110
Travel .....	747	840	1,318	992	1,079
Interest and dividends .....	322	318	295	331	406
Freight and shipping .....	668	758	830	894	934
Inheritances and immigrants' funds .....	216	268	329	370	363
All other current receipts .....	645	759	863	963	1,109
Total non-merchandise receipts .....	2,736	3,070	3,747	3,670	4,001
<b>Total Current Receipts</b> .....	<b>11,481</b>	<b>13,396</b>	<b>15,085</b>	<b>17,208</b>	<b>18,887</b>
<b>Current Payments</b>					
Merchandise imports .....	8,627	10,102	10,772	12,162	14,018
Non-merchandise payments					
Travel .....	796	900	895	1,015	1,280
Interest and dividends .....	1,086	1,140	1,211	1,290	1,364
Freight and shipping .....	761	823	861	937	994
Inheritances and emigrants' funds .....	211	198	213	209	190
Official contributions .....	93	166	182	133	143
All other current payments .....	1,037	1,229	1,450	1,522	1,620
Total non-merchandise payments .....	3,984	4,456	4,812	5,106	5,591
<b>Total Current Payments</b> .....	<b>12,611</b>	<b>14,558</b>	<b>15,584</b>	<b>17,268</b>	<b>19,609</b>
<b>Current Account Balance</b> .....	<b>-1,130</b>	<b>-1,162</b>	<b>-499</b>	<b>-60</b>	<b>-722</b>
<b>Total capital movements in long-term forms</b> ..	<b>864</b>	<b>1,167</b>	<b>1,347</b>	<b>1,590</b>	<b>2,162</b>
<b>Total capital movements in short-term forms</b> ..	<b>425</b>	<b>-364</b>	<b>-828</b>	<b>-1,181</b>	<b>-1,375</b>
<b>Changes in Official International Reserves</b> .....	<b>159</b>	<b>-359</b>	<b>20</b>	<b>349</b>	<b>65</b>

liabilities amounted to about \$38,000 million, of which about half represented direct foreign investment in Canadian enterprises controlled by non-residents. A substantial part of the remainder covered portfolio investment of non-residents in Canadian-controlled corporations and in government and municipal bonds. In 1966 Canada's gross external assets totalled about \$14,000 million of which nearly \$5,000 million was represented by government loans to overseas countries, subscriptions to international financial organizations, and holdings of gold and foreign exchange.

Dependence on external sources for some types of capital, together with the special advantages often associated with this capital, has led to a very marked degree of foreign ownership and control in certain Canadian industries. Foreign investment accounted for 62 per cent of the ownership and 73 per cent of the control of the Canadian petroleum and natural gas industry at the end of 1966, the latest calculation. The mining industry was 59 per cent foreign-owned and 62 per cent foreign-controlled. Manufacturing, other than petroleum refining, was 54 per cent foreign-owned and 58 per cent foreign-controlled, although the degree of foreign ownership and control varies considerably in different branches of manufacturing. Other areas of Canadian wealth such as utilities, merchandising, housing, and social capital remain Canadian-owned and controlled to a much larger extent.

A substantial part of foreign capital in Canada has taken the form of equity investment and, as a result of the retention of earnings, foreign investments increase each year by some hundreds of millions of dollars more than the capital actually imported. Indeed, during the postwar years to the end of 1964 the earnings accruing to non-resident investors, but voluntarily retained in Canada to finance expansion, have amounted to about \$5,000 million.

## International Travel

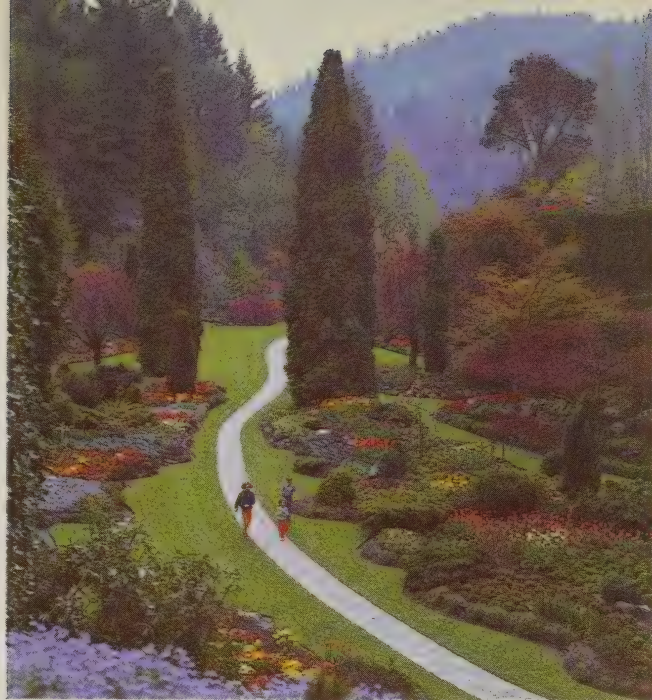
Travellers to and from Canada, excluding immigrants and emigrants, spent \$2,400 million in 1969. Visitors spent \$1,079 million in Canada and on Canadian transportation, and Canadians spent \$1,280 million outside their country and on non-Canadian transportation. The corresponding figures for 1959 were \$391 million and \$598 million respectively, and the increase from these levels testifies to a significant expansion of international travel during the past decade.

Statistics on international travel in Canada are developed from two sources: the number of travellers coming into Canada reported at the time of their entry by customs or immigration officials, and the information supplied on questionnaires which some travellers are asked to fill out and return to the Dominion Bureau of Statistics.

Since travellers who stay overnight are of greater importance to the tourist industry of a country than those who spend only a day, an effort is made to distinguish between the two categories. Canada-United States travel statistics are given separate treatment because of the proximity of the two countries and the great amount of travel across their common border.



A tourist attraction near Victoria, B.C. is Butchart Gardens.



## Visitors to Canada

Visitors entering Canada from other countries numbered 36.2 million in 1969, an increase of nearly 1 million from 1968. There were 35.8 million visits by United States residents, about 2.8 per cent more than in the preceding year. This figure includes persons entering and leaving the same day, which accounted for about two thirds, and persons staying one or more nights in Canada, who formed the remainder. The majority of visitors came by automobile. Some 13 million cars carrying 31 million American travellers crossed the border to Canada in 1969, an increase in the number of persons of 2.1 per cent over 1968. The count of visitors entering Canada from the United States by other means of transportation in 1969 shows that 1.1 million arrived by aeroplane, 0.9 million by bus, 0.2 million by rail, and 0.5 million by boat, representing increases of 14.1 and 2.7 per cent for aeroplane and bus, and decreases of 10.3 and 7.5 per cent for rail and boat.

Questionnaire data for 1968 show that the average stay of overnight travellers from the United States was five nights, almost unchanged from 1967. The main province of destination of these long-term travellers in 1968 was Ontario, which accounted for almost one half; about one quarter went to Quebec and 14 per cent to British Columbia.

The number of visitors from countries other than the United States totalled 463,200 in 1969, an increase of 27.8 per cent over the preceding year. The ten countries from which the largest numbers of visitors came were Britain (143,600), Germany (35,300), France (32,500), the Netherlands (23,300), Japan (18,500), Italy (15,600), Australia (14,700), Mexico (10,000), Jamaica (9,400), and Poland (7,900).





Year by year more tourists are drawn in the winter to the ski slopes and in the summer to picturesque seaside resorts such as Rustico Harbour, P.E.I.



## Canadian Travel Abroad

The number of Canadians travelling abroad in 1969 was approximately the same as that of visitors from all countries to Canada, some 36.3 million, an increase of about 5 per cent over 1968.

The vast majority of Canadians returning from trips outside the country in 1969 came from the United States — 35.4 million — and 86 per cent of these travelled by automobile. Some 22.9 million travellers by automobile left and returned on the same day, and 7.3 million remained one or more nights in the United States. These figures represent increases of 1.8 per cent for one-day tourists and 6.1 per cent for the remainder. Canadians returning by aeroplane numbered 1.2 million, by bus 0.7 million, and by rail and boat 0.1 million each, representing increases over 1968 of 29.4 per cent for aeroplane and 13.3 per cent for bus travellers, and decreases of 15.7 per cent for rail and 2.1 per cent for boat travellers.

Questionnaire data for 1968 show that the average stay for Canadian residents remaining one or more nights in the United States was 6.3 nights, 6 per cent less than the average stay of 6.7 nights in 1967. The main province of residence of these long-term travellers to the United States was Ontario (38 per cent), followed by Quebec (34 per cent) and British Columbia (11 per cent). The New England region was the main destination of 29 per cent of Canadians leaving for the United States in 1968. The Middle Atlantic and Pacific States followed with 22 and 14 per cent, respectively. In the same year, holidays were reported by 54 per cent of respondents as the purpose of their trip; visits to friends or relatives accounted for 27 per cent and business for 7 per cent.

Canadian residents returning from overseas countries in 1969 were estimated at 850,000, an increase of 33 per cent over the 638,000 returning in 1968. The majority of Canadians returning from overseas countries re-entered at two airports: 42 per cent at Toronto and 29 per cent at Montreal.

### Travel Between Canada and Other Countries, 1966-68

Visitors to Canada	Numbers (Thousands of visits)			Expenditures <sup>1</sup> (Millions of dollars)		
	1966	1967	1968	1966	1967	1968
From the United States						
Entering and leaving the same day .	22,507	24,511	23,068	79	124	120
Staying more than one day .....	12,818	15,465	11,708	651	1,040	771
Totals .....	35,325	39,976	34,776	730	1,164	891
From countries other than the U.S. . .	411	590	362	110	154	87
<b>Totals .....</b>	<b>35,736</b>	<b>40,566</b>	<b>35,138</b>	<b>840</b>	<b>1,318</b>	<b>978</b>
Canadian Travel Abroad						
To the United States						
Entering and leaving the same day .	27,423	24,709	25,469	57	57	66
Staying more than one day .....	7,257	7,791	8,480	571	570	644
Totals .....	34,680	32,500	33,949	628	627	710
To countries other than the U.S. ....	503	522	638	272	268	298
<b>Totals .....</b>	<b>35,183</b>	<b>33,022</b>	<b>34,587</b>	<b>900</b>	<b>895</b>	<b>1,008</b>

<sup>1</sup> Includes Hawaii and transportation fares paid to U.S. carriers by Canadians travelling overseas.



## The Department of Industry, Trade and Commerce

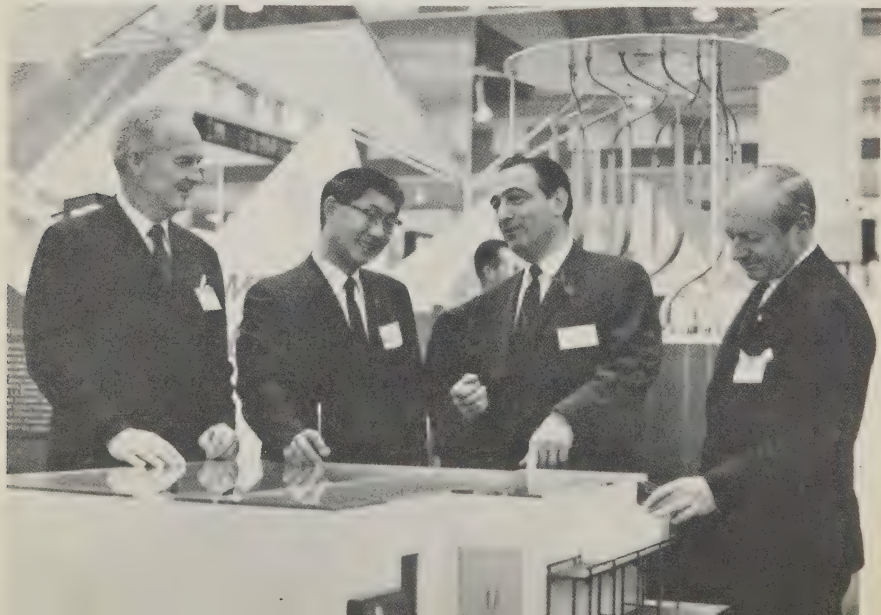
The role of the Department of Industry, Trade and Commerce is to further the growth, productivity, employment opportunities, and prosperity of the Canadian economy through the efficient development of Canada's manufacturing and processing industries and the expansion of trade and tourism. The Department consists of five major operating groups: Trade and Industrial Policy, Industry and Trade Development, Office of Economics, Office of Tourism, and Administration.

The **Trade and Industrial Policy** group has the responsibility of recommending policies and programs to improve the growth and efficiency of Canadian manufacturing and processing industries, to gain access for Canadian goods to foreign markets, and to safeguard Canada's trade relations with other countries. It consists of three Offices: Area Relations, General Relations, and Industrial Policy Adviser.

The **Industry and Trade Development** group co-ordinates departmental operations in and outside Canada involving industrial and trade development. It develops incentive and operational programs, consults with other federal agencies and provincial trade departments, and meets regularly with the Canadian business community and business and trade associations. Components in the group are: Operations, External Services, and the Offices of Science and Technology, Design, and Promotional Services.

Nine industry sector branches and a program office comprise the operations unit. They are: Aerospace, Marine and Rail; Agriculture, Fisheries, and

Atomic Energy of Canada has developed and exported the system of sterilization of packaged medical products by radiation.





At the Pacific International Trade Fair in Lima, Peru, a Canadian tobacco tying machine is demonstrated.



Food Products; Apparel and Textiles; Chemicals; Electrical and Electronics; Machinery; Materials; Mechanical Transport; and Wood Products.

External Services directs departmental trade and industrial development programs in foreign countries. They also compile information on foreign economic, commercial, financial, and technological conditions for Canadian manufacturers and exporters and other federal and provincial government agencies. Through the Trade Commissioner Service and the International Defence Programs Branch, External Services directs Canada's defence export program and defence production sharing agreements.

The **Office of Economics** conducts a continuing assessment of current and prospective economic changes in countries affecting Canadian trade. It forecasts estimated changes in the structure of industries and markets, analyzes capital investment in Canada and foreign countries, and does economic research into industrial productivity.

The **Office of Tourism** promotes travel by citizens of other countries to Canada and co-ordinates policies and programs designed to attract tourists from such countries. It works toward the growth and development of the Canadian tourist industry including the promotion of travel in Canada by Canadians. The two working components are the Canadian Government Travel Bureau and the Travel Industry Branch.

# Transportation

The vast geographical expanse of Canada, the dispersion of its people and resources, and the great importance of international trade combine to give transportation a vital role in the economic and social development of the country.

Total passenger-miles have more than tripled in the last 21 years. The dominant form of passenger transportation since the Second World War has been the automobile. In 1968, cars accounted for 89 per cent of total passenger-miles in Canada, followed by air (5 per cent), rail (3 per cent), and bus and other urban public transport (3 per cent).

The growth of freight transportation has also been dramatic; one of the notable features was the construction in the mid-1950's of transcontinental oil and natural gas pipelines. Freight transportation measured in ton-miles has increased three-fold since 1949. During this period of rapid growth, the proportions of freight carried by the various modes of transport have changed considerably. For example, railways and ships accounted for 95 per cent of total freight ton-mileage at the end of World War II, but just over 60 per cent in 1968. Despite this change, these traditional carriers are currently conveying almost double their immediate postwar ton-mileage: changes can therefore

A tandem trailer for hauling logs increases the capacity of each diesel-powered truck.



be primarily attributed to the technological advances made in the other modes of transportation.

In absolute terms, truck transportation of all kinds has increased from 8,000 million freight ton-miles in 1949 to 22,000 million in 1967; and has held a share of some 8 to 9 per cent of total ton-miles over recent years. Truckers have been quick to exploit the benefits of improved highways, and the parallel development of the motor vehicle. Truckers now provide coast-to-coast service. The typical truck of today is the diesel, and heavier loads are more likely to be carried by a road "train" (a tractor plus a trailer or trailers) than by an integral unit.

Air cargo has increased from 10 million ton-miles in 1949 to 170 million in 1968. This increase may be attributed to increases in the number of routes, frequency of services, number of terminals, and a general increase in the cargo payload of aircraft. However, despite this large increase, air still accounts for only 0.1 per cent of the total freight ton-miles in Canada.

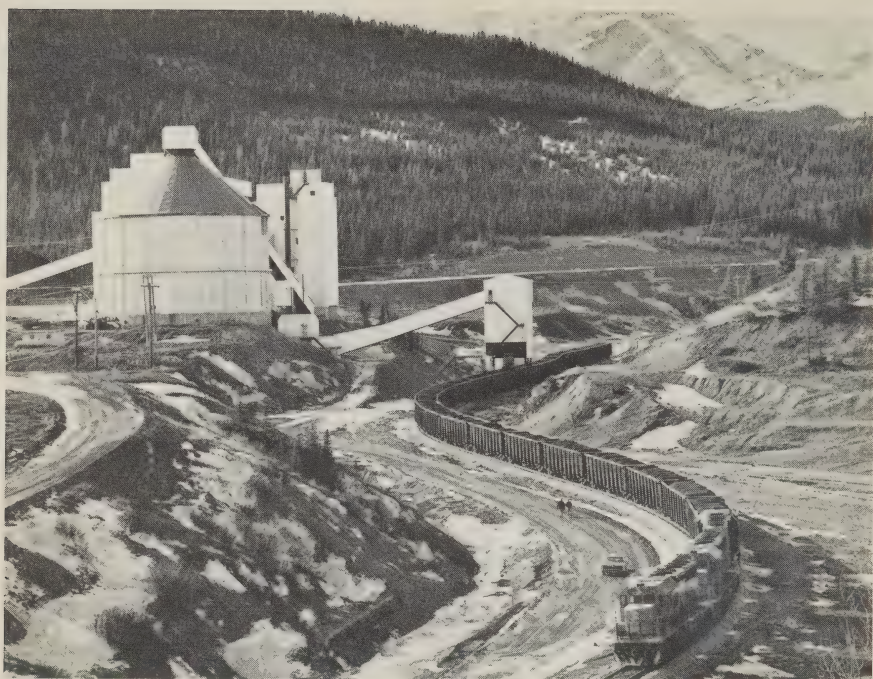
Pipelines for natural gas, petroleum, and petroleum products are now a major element in Canada's vast transportation network. These include the world's longest line for the transport of natural gas — the 36-inch diameter TransCanada Pipeline extending 2,423 miles from the Alberta-Saskatchewan border to Montreal. Developments have resulted in an increase in pipeline ton-mileage from 23,000 million ton-miles in 1959 to 69,000 million in 1968, 27 per cent of the Canadian total.

Apart from these technological innovations, improved techniques and other changes are also evident in the older established modes of transportation, rail and water. Railways have built electronically operated freight yards and have introduced machine-processing of data for operational, analytical, and accounting purposes. Lines have been built to remote mining areas opened up since the war and many miles of uneconomic lines, particularly passenger services, have been abandoned. The opening of the St. Lawrence Seaway in 1959 brought benefits such as lower transportation costs and new inland markets, by enabling all but the largest ocean freighters to sail nearly 3,000 miles from the sea up the St. Lawrence and through the Great Lakes to the Lakehead. Many cities along the 8,300 miles of inland shoreline have now, in fact, become seaports. The introduction of improved techniques of moving vessels and new traffic controls are achieving greater safety and greater efficiency. The time it takes to move vessels (up to 730 feet long) through the Seaway and its 16 locks has been reduced.

## Recent Developments

One of the most interesting recent innovations in transportation is the multi-purpose, inter-modal container, for land and sea transport. Internationally-agreed dimensions now exist for these containers, and huge investments are being made throughout the world on specialized vehicles (container ships, rail flat beds, and so on), on the containers themselves, in land-side handling equipment, and, in some cases, on completely new seaports. Among Canadian ports equipping themselves for this new era are Saint John, N.B.,





Fifty new gondola cars headed by three diesel units hauled the CN's first unit trainload of coal from Luscar, Alta., to Vancouver for shipment to Japan.

Halifax, N.S., Quebec and Montreal, Que., and Vancouver, B.C. Canadian Pacific Steamships is planning on full containerization of its freight in the 1970's, and the main railway systems are actively adopting the idea of acting as a "land-bridge" to connect Europe and Asia via North America.

The railways have also been developing the unit train to export coal. Canadian Pacific Railways' first unit train rolled into Roberts Bank, B.C., April 30, 1970, carrying more than 9,000 tons of coking coal destined for Japanese steel mills. The 88-car unit train, equipped with a complex radio command system for operating locomotives by remote control, was pulled by as many as eleven 3,000-horsepower diesel units during its 700-mile run from Sparwood, B.C.

Another development in rail is the high-speed turbo-train, powered by gas turbine engines, and designed on aerodynamic principles to give a smooth ride at high speeds. Canadian National Railways has had a turbo-train operating between Montreal and Toronto since the summer of 1970. The time of the journey has been reduced to four hours.

For air service in the 1970's, supersonic, jumbo, short take-off and landing (S.T.O.L.), and vertical take-off and landing (V.T.O.L.) aircraft are planned. Supersonic planes will be capable of cruising at two to three times the speed of sound; jumbo aircraft will seat up to 500 passengers; and S.T.O.L./V.T.O.L. aircraft will be able to operate from short inexpensive landing strips.

The biggest development in the future for the shipping industry will be the advent of the super-tanker. A Canadian company has ordered two 250,000-deadweight ton super-tankers, each with a length of 1,050 feet, a breadth of 170 feet, a depth of 88 feet, and a service speed of 15.5 knots. Two more developments for the future are a laser beam which guides the pilot of a surveying vessel on a straight line, and a barge with the Alexbow hammerhead icebreaking bow which lifts and turns ice aside rather than crushing it.

Bus companies are now going into the freight business. Bus parcel terminals are being built in Toronto, Edmonton, Halifax, and Vancouver. The inter-city bus industry is preparing to make a more significant contribution to this business, to which railways and the trucking industry are not always best suited.

In trucking, vehicles such as the super highway turbine are likely to play a more prominent part in the future. These vehicles are now being tested in the United States.

The ubiquitous automobile has given rise to a host of problems including traffic congestion, shortage of parking space, accidents, and air pollution, and the high cost of building extensive thoroughways. These problems are a major concern to urban planners and, in an attempt to meet them, new and improved forms of urban rapid transit, including several variations of the electric car, are being studied. In order to consider these problems, the first Canadian urban transportation conference was held in Toronto in 1969.

Hovercraft, a recent British invention, have been developed considerably in the last ten years. The ability of this type of craft to transverse water, ice, snow, muskeg, tundra, and fairly rough terrain offers great possibilities in Canada. At present there are two hovercraft companies operating on the West Coast between Vancouver, Victoria, and Nanaimo, B.C. The hovercraft used can each carry 36 passengers and 9,000 lb. of freight. Small personal hovercraft are now being manufactured in Canada.

Snowmobiles, first developed by a company in Quebec, are used mainly for recreation in the south of Canada, but in the north, they are fast replacing the dog team for the serious business of transport and exploration.

## Road Transport

In 1968, there were 7,878,000 motor vehicles registered in Canada. Of this total, 6,160,000 were cars, 1,341,000 trucks and road tractors, 39,000 buses, and 338,000 were other vehicles such as motorcycles and farm tractors licensed in accordance with the regulations of various provinces. Apart from Canadian-registered vehicles, the Canadian road network is travelled by large numbers of American vehicles, which are estimated to account for



Plowed roads open the difficult terrain of the Canadian Rocky Mountains to travellers.

some 6 per cent of total automobile passenger-mileage in Canada. Some 26 million road vehicles passed through Canadian border points in 1969. The private car also dominates in urban passenger movement despite the bus and other urban transit systems. Inter-city and rural buses carried over 64 million passengers in 1968 and earned over \$81 million at an average fare for a passenger of \$1.27.

With a large proportion of Canada's people living in urban areas, urban transit systems are of great importance. The major systems are municipally-owned; these reported 966 million passenger-fares in 1968 and privately-owned systems in smaller centres reported 90 million. Urban bus companies as a whole earned \$223 million at the average rate of 20 cents a passenger-journey.

Truck transport is important in both local distribution and long and medium distance inter- and intra-provincial distribution. In 1967, for-hire and private trucks carried an estimated 670 million tons of freight, and cost the nation's industry and commerce several thousands of millions of dollars. National expenditure on for-hire motor carrier services alone was nearly one thousand million dollars, an expenditure similar to that on railway freight.

The construction and maintenance of Canadian roads and streets are primarily the responsibility of provincial and municipal governments; the federal government's role is to ensure the development of the integrated systems of highways necessary for today's large volume of traffic. Total expenditures on highways and urban streets came to \$1,738 million in 1968 or \$84 per capita. Canada had 524,000 miles of roads and streets by the end of 1968, of which 74 per cent were surfaced.



## Urban Transit

Due to the increase in ownership of automobiles and the expansion of urban and suburban areas, serious problems have been created for urban transit systems. Apart from the motor bus and systems "on the drawing board," present forms of urban transit include the street car, trolley coach, subway, and other city railways. In Canada, street cars are now used only in Toronto, and only a few cities operate trolley coaches. In general, the emphasis is on the more flexible motor bus service and on city and suburban railways.

Toronto and Montreal have both constructed underground railways. Toronto completed the original 4.5-mile subway in 1954, and extensions were opened in 1966 and 1968 to give a present length of 21 miles. The Métro in Montreal was opened in the autumn of 1966.

The mainline railways of Canada have for many years provided suburban commuter services. In 1966, they carried over 1,000 million commuters. One such service is the Toronto GO system, opened in May, 1967. This rail commuter service is managed by Canadian National Railways for the government of Ontario, and is operated over 60 miles of CN lines. In 1968, the first full year of operation, commuters made 4.7 million journeys.

## Railways

Of the \$1,529 million of operating revenues received by railway companies in 1968, 88 per cent was received by the two great transcontinental systems—the Canadian Pacific Railway, and the Canadian National Railway, owned by the federal government. In addition to their far-reaching railway operations, these companies operate inland and coastal vessels,

A railway across Canada was instrumental in the settlement of the west. Railways still are important in traversing the great distances in Canada.



ocean-going steamships, highway transport services, and large hotels and resorts. Canadian National and Canadian Pacific also jointly operate a national telecommunication system.

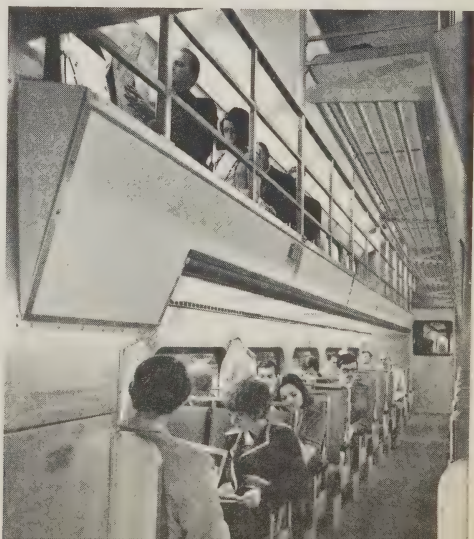
Other railways include the Pacific Great Eastern Railway, owned by the Government of British Columbia, which operates over an 800-mile route from North Vancouver to Fort St. John, and beyond. This line was originally founded in the early part of the century, but the 262 miles from Prince George to Fort St. John were completed only twelve years ago. Connections at Vancouver, Prince George, and Dawson Creek link this line with other Canadian railways and with U.S. lines. Another provincially-owned railway is the Ontario Northland, serving Northern Ontario and connecting with Moosonee on James Bay.

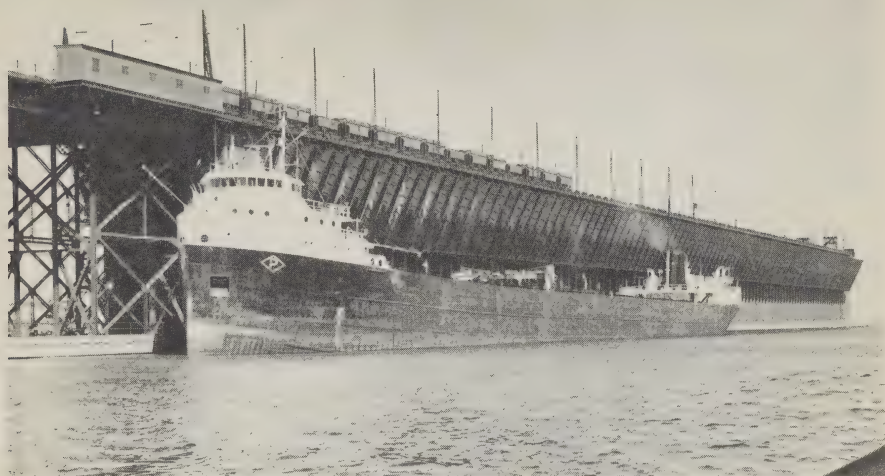
Construction of Canada's first railway into the Northwest Territories was completed in 1964. This line was built by Canadian National on behalf of the federal government along the 430 miles from Peace River, Alta. to Pine Point on the south shore of Great Slave Lake. CN has also constructed the Alberta Resources Railway for the Government of Alberta to connect Grande Prairie in the Peace River district with CN's main line just east of Jasper. Other important railways include the Quebec, North Shore, and Labrador Railways, which largely carries iron ore; the Algoma Central running north from Sault Ste Marie, Ont.; the Northern Alberta Railway; and the White Pass and Yukon Railway. (The latter was the first to cross the 60th parallel; it connects Whitehorse in the Yukon with Alaska.) Branch lines to serve mineral developments in various other parts of Canada have also been constructed in recent years.

In 1968, Canadian railways carried some 193 million tons of freight an average distance of 439 miles. Freight traffic in terms of ton-miles was over 95,000 million, and each ton-mile earned the railways an average of 1.4 cents.

In 1968 the number of passenger-journeys by train decreased by 19 per cent to 19,953,000. Passenger-miles traversed in 1968 amounted to 2,554 million. The average distance each passenger travelled increased slightly to 128 miles from 127 miles in 1967 while the average revenue per passenger-mile was unchanged at 2.5 cents.

CP Rail has introduced double decker service on runs from the suburbs to downtown Toronto.





Thunder Bay, Ont., is an important link between eastern and western Canada. Here lakereceivers cargoes from the railways for shipment to points on the Great Lakes-St. Lawrence system.

## Shipping, Harbours and Canals

**Facilities.** Coastlines on three oceans; the St. Lawrence and Mackenzie Rivers; Lake Winnipeg; and Hudson Bay — these are some of the basic geographical features of Canada which have led to the importance and pattern of water transportation.

Canadian waterways — canals, lakes and rivers — are open on equal terms to the shipping of all countries of the world, except for the Great Lakes-St. Lawrence system from Havre Saint-Pierre. In 1966, the exclusive right to carry goods and passengers between Canadian ports in this system was reserved for vessels of Canadian registry.

There were 12 ports in Canada that handled 5 million tons of cargo or more in 1968. Of these, Sept-Îles and Port Cartier were largely engaged in the export of Labrador and Quebec iron ore, and Thunder Bay (formerly Port Arthur and Fort William) was engaged primarily in the grain trade. Vancouver and Montreal, with some 25.8 and 17.5 million tons respectively, were the largest general cargo ports. Hamilton and Toronto, together accounting for some 18 million tons, were largely engaged in the import of raw materials and foodstuffs for the busy and populous Ontario peninsula.

The major canal systems of Canada are those of the St. Lawrence Seaway providing navigation from Montreal to Lake Ontario; the Welland Ship Canal which by-passes the Niagara River between Lakes Ontario and Erie; and the Sault Ste Marie Canal between Lakes Huron and Superior. The sixteen locks in these three major canal systems overcome a drop of 580



### The Twelve Major Ports in Canada, 1968

Port	Total Freight Handled (Millions of Tons)	Foreign as % of Foreign & Coastwise	Loaded as % of Loaded and Unloaded
Sept-Iles/Pointe Noire, Que. ....	26.0	83	95
Vancouver, B.C. ....	25.8	55	71
Montreal, Que. ....	17.5	53	50
Thunder Bay, Ont. ....	13.6	29	90
Port Cartier, Que. ....	12.7	93	87
Hamilton, Ont. ....	11.9	62	6
Halifax, N.S. ....	9.7	73	44
Quebec, Que. ....	6.8	53	32
Toronto, Ont. ....	5.6	61	5
Saint John, N.B. ....	5.5	76	36
Sault Ste Marie, Ont. ....	5.2	65	10
New Westminster, B.C. ....	5.0	34	68

feet from the Lakehead (now Thunder Bay) to Montreal. The Seaway accommodates all but the largest ocean-going vessels, and has opened the Great Lakes to an estimated 80 per cent of the world's salt-water fleet. Subsidiary canals, mainly used by pleasure craft and to regulate the water-level, include the connections between the Bras d'Or Lakes in Nova Scotia and the Atlantic; the canals on the Richelieu and Ottawa Rivers; the Rideau Canal between Ottawa and Kingston; and the canals connecting Lake Ontario and Georgian Bay.

**Traffic.** Canadian ports handled more cargo in 1968 than in 1967. Total foreign tonnage loaded and unloaded increased by 8 per cent to 141 million tons from 130 million tons, while domestic unloadings at Canadian ports rose by 2 per cent from 54.9 million in 1967 to 56.1 million tons. Canadian ports handled approximately 115,000 vessels (arrivals) in the year.

In 1968, Canadian exports expanded to 86.6 million tons from 80.0 million in 1967. Of this total, shipments of iron ore increased substantially (37.5 millions from 34.0 millions). Wheat shipments (including re-exports) advanced to 11.2 million tons from 10.5 million and gypsum to 4.4 millions from 3.9 millions, while lumber and timber were practically unchanged at 4.4 million tons. Among other loadings going abroad, sizable increases were reported for pulp, potash, salt, and coal, while newsprint dropped approximately 3 per cent.

Of the 54.4 million tons of imported cargoes in 1968, bituminous coal accounted for 16.6 million tons, fuel oil for 8.9 million, crude petroleum for 6.9 million, and iron ore for 3.4 million tons. Alumina, wheat, corn, limestone, and soyabeans also entered Canada in larger quantities, thereby contributing to the over-all increase in import tonnage of some 8 per cent.

During 1968, some 68.5 million unduplicated tons of freight passed through Canadian canals, close to the record figure achieved in 1966. Of the 1968 tonnage, 67.3 million was handled in the St. Lawrence-Great Lakes system: this level of activity may be compared with the 105.5 million tons passing through the Panama Canal in a similar period.

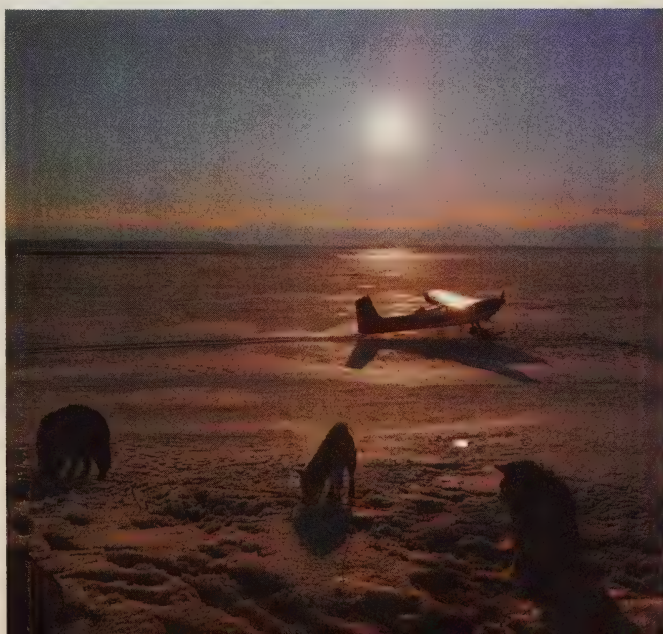
## Civil Aviation

In 1968, Canadian airlines ranked third in the world in numbers of passengers travelling on scheduled air services; 8.2 million passengers were carried on their scheduled flights. The airlines of the United States of America led with 15 million and those of the United Kingdom were second with 13.5 million passengers. The total number of passengers conveyed by Canadian airlines on all classes of civil air services in 1969 reached 10.3 million which is 1.0 million higher than for 1968. Freight hauled totalled 245,900 tons in 1969, an increase of 23.1 per cent over 1968.

**International Services.** Canada's two international flag carriers, Air Canada and CP Air, carried 7.8 million passengers which represents 75.7 per cent of the total passengers hauled on Canadian civil air services. The four regional carriers (Eastern Provincial Airways, Quebecair, Pacific Western Airlines, and Transair) lifted 1.3 million passengers or 12.6 per cent. Internationally, the Canadian flag carriers operate scheduled services to the United States, Great Britain, Eire, Denmark, Holland, France, Germany, Switzerland, Czechoslovakia, Russia, Spain, Portugal, Italy, Greece, Japan, Hawaii, Australia, Hong Kong, Mexico, Peru, Chile, Argentina, and the Commonwealth Caribbean. On international routes, Canadian carriers lifted 2.7 million passengers and 46,646 tons of cargo while foreign airlines carried 3 million passengers and 49,610 tons of cargo between Canada and other parts of the world.

**Air Services and Airports.** Fifty-two additional commercial air services were licensed during 1968 to operate in Canada, bringing the total number up to 844; of these, 454 were Canadian and 390 foreign. Some 400 of the smaller Canadian air carriers operate also in the hinterland of Canada, which is relatively inaccessible by surface transport; they provide a variety of services such as crop dusting, assistance in construction work, hospital services, recreational flying, and flight training.

Most transportation in the north is by aeroplane but husky dogs are still used by the Eskimos to haul their loads of furs.



The number of civil aircraft of all kinds registered in Canada rose from 6,270 at the end of 1963, to 10,062 at the end of 1969 which is an increase of 766 over the number in 1968. At March 31, 1970, the total personnel licences in force numbered 37,492, an increase from the 35,378 of the previous year.

### Statement of Operations of Canadian Air Carriers, 1968 and 1969

	Scheduled Carriers		Non-Scheduled Carriers		Total	
	1969	1968	1969	1968	1969	1968
<b>Operating Revenues (\$ millions) .....</b>	599.4	533.6	103.3	82.8	702.7	616.4
Passengers (unit toll) .....	470.9	437.2	9.8	5.8	480.7	443.0
Goods (unit toll) .....	83.7	73.3	5.6	3.8	89.3	77.1
Charter and contract .....	33.3	15.4	70.8	56.3	104.1	71.7
Specialty and non-flying .....	11.5	7.8	17.1	16.8	28.6	24.6
Net income after taxes (\$ millions) .	3.3	9.5	4.2	2.3	7.5	11.8
<b>Revenue Traffic Carried</b>						
Passengers (no. millions) .....	9.1	8.4	1.2	0.9	10.3	9.3
Goods (lb. millions) .....	396.8	305.9	154.0	141.7	550.8	447.6

**Aircraft Movements.** Total aircraft movements at 46 airports with air traffic control towers were 4,325,568 in 1969; 4,048,224 were handled by 42 towers in 1968. St. Hubert airport recorded the highest number of total aircraft movements for 1969 with 289,718; Montreal ranked second with 257,708; and Calgary International was third with 218,737. The number of movements by jet aircraft surpassed those for turbo-props in 1969. Aircraft with take-off weight in excess of 314,000 lbs. recorded a phenomenal growth from 41 movements in 1965, to 29,666 in 1969. Revenues at airports operated by the federal Ministry of Transport amounted to \$46 million and \$36 million respectively for the fiscal years ending March 31, 1969 and 1968.

### Distribution of Itinerant<sup>1</sup> Movements at Department of Transport Tower-Controlled Airports by Type of Power Plant, 1967-69

Aircraft Type	1969		1968		1967	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Piston .....	1,111,377	61.1	1,044,869	62.6	1,033,738	64.2
Turbo-Prop .....	286,702	15.8	325,958	19.6	335,564	20.8
Jet .....	362,977	19.9	248,256	14.9	197,442	12.3
Helicopters .....	57,125	3.1	47,474	2.8	42,245	2.6
Gliders .....	2,324	0.1	1,051	0.1	1,606	0.1
<b>Total .....</b>	<b>1,820,505</b>	<b>100.0</b>	<b>1,667,608</b>	<b>100.0</b>	<b>1,610,595</b>	<b>100.0</b>

<sup>1</sup> A take-off or a landing of an aircraft that is departing for another airport, or arriving from one.

**Overseas Aid.** The air terminal at Katunayaka (Ceylon) was completed, an air terminal is under construction at Montserrat (West Indies), contracts for building airports at Antigua and St. Lucia in the West Indies were awarded, and visual aids to navigation installed.



# The Mass Media

## Broadcasting

The 1968 Broadcasting Act provided a statutory statement of broadcasting policy for Canada, reinforcing the mandate of the national broadcasting service to be provided by the Canadian Broadcasting Corporation. It also created the Canadian Radio-Television Commission as the single public authority to regulate and supervise all aspects of the Canadian broadcasting system both public and private.

### The Canadian Broadcasting Corporation

The CBC is a publicly owned corporation established by an Act of the Canadian Parliament in 1936 to provide the national broadcasting service in Canada. Its radio and television facilities extend from Atlantic to Pacific and into the Arctic Circle.

**Financing.** The Corporation is financed mainly by public funds voted annually by Parliament. Supplementary revenue is obtained from commercial advertising. As a publicly owned corporation the CBC is responsible to Parliament, and reports on its operations each year through a Cabinet Minister designated in the Broadcasting Act. The CBC's head office is in Ottawa.

**Domestic Operations.** The CBC operates six major domestic services: two television networks, French and English; two AM radio networks, French and English; an FM radio service in five major cities; and a multi-lingual Northern Service (English, French, Indian, and Eskimo languages) providing medium and shortwave broadcasting to the Canadian north.

**External Operations.** The CBC International Service broadcasts by short-wave in 11 languages to eastern and western Europe, Africa, Australasia, Latin America, the Caribbean, and North America. It also distributes programs to foreign broadcasters by means of music and spoken-word transcriptions, special relay circuits, and television films. In co-operation with the Department of National Defence, the CBC Armed Forces Service provides recorded and shortwave radio programs, television films, and touring entertainment parties for Canadian military bases in Canada and abroad.

The CBC co-operates with many other broadcasters around the world in the production and exchange of programs. It is a member of several international broadcasting organizations. The CBC is also active in program sales to other countries, and participates regularly and successfully in international program competitions. In co-operation with the Canadian International Development Agency and UNESCO, the CBC has sent personnel to aid foreign broadcasting agencies and it provides training for foreign students who come to Canada to learn broadcasting. The CBC maintains

offices in London, Paris, Rome, New York, and Washington, as well as news bureaus in Moscow and the Far East.

**Programming.** The CBC produces programs in many fields: news, information, commentary, special events, documentary, drama, music, variety, for children and youth, for schools, adult education, sports, religion, science, and the arts. It also carries a selection of programs from other countries. The main production centre for English networks is in Toronto, and for French networks in Montreal, with regional centres across the country.

**Audio-Visual Material.** The CBC's English and French networks maintain publications departments which offer for sale the texts of selected programs. Certain CBC music recordings are made available for public sale in co-operation with commercial companies. Tape recordings of CBC broadcasts are provided at nominal cost for educational non-broadcast use, and it is hoped that a similar service can be instituted for CBC film material.

**Coverage and Facilities.** By early 1970, CBC radio service was within reach of 97.2 per cent of the Canadian population, and CBC television was available to 96 per cent. Most evening television programming was in colour, and about 12.1 per cent of Canadian households had colour receivers. There were 360 outlets for the national radio service: 45 CBC-owned originating stations, 219 CBC-owned low power relay transmitters, and 96 privately-owned affiliated stations. In television, national service outlets totalled 303:

Bernard Turgeon holds aloft the cross as the symbol of Riel's sense of mission on behalf of his people, the Métis, in two unsuccessful rebellions in the 19th century. This Canadian opera was shown on the French and English networks of the CBC.



17 CBC-owned originating stations, 76 CBC-owned network relay and rebroadcasting stations, 17 Frontier Coverage Packages (stations in the Canadian north which are programmed by film recordings), and 42 privately-owned affiliates with their 151 rebroadcasting stations. During 1969 CBC acquired the private television station at Moose Jaw, Sask., and its rebroadcaster at Regina, giving the Corporation its first CBC-owned television facilities in that province.

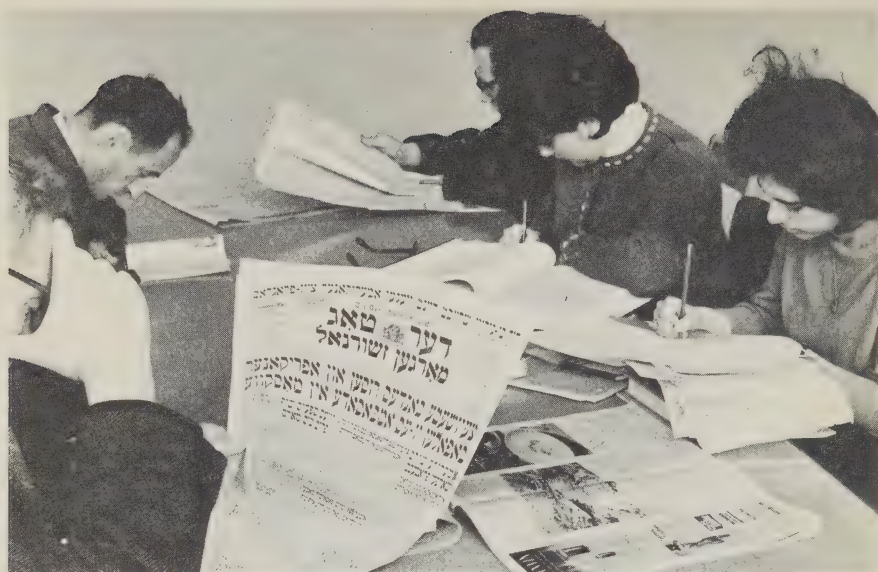
## Private Broadcasting

Heading into its second half century, Canadian private broadcasting edges ever closer to reaching all persons in Canada having radios, television receivers, or both. Its 597 private stations (AM, TV, FM, rebroadcasting, and shortwave) annually transmit 2,510,000 hours of programming to a potential daily audience of 19 million. Ninety-seven per cent of private stations belong to the Canadian Association of Broadcasters, a voluntary trade Association established in 1926 to foster and develop, protect and serve the interests of broadcasting. With a capital investment nudging \$190 million, private broadcasting employs 10,500 persons (including freelance talent) whose annual salaries exceed \$76 million. Some private radio stations are CBC outlets and help extend "a national service"; 11 private television stations own and operate the CTV Network (also a CAB member). Two television stations are not affiliated to either CTV or the CBC. Aside from network commitments, which are largely national in scope, private stations provide primarily a local service; they survive solely on advertising revenue. Private stations, like the CBC, are governed and licensed by the Canadian Radio-Television Commission, which acts under the authority of the 1968 Broadcasting Act.

Of Canada's 5,500,000 households, 96 per cent have television sets, and over 97 per cent have radios. Roughly 44 per cent are transistors, the balance almost equally divided between auto (28) and home sets (28). FM in 1969 continued its dramatic increase; now 52.9 per cent of radios can carry FM stations. About 1 million colour television sets are now in use. In 1969 average daily household viewing advanced to 5 hours, 52 minutes, a 7-minute increase.

Through their Association, which has a head office in Ottawa and branches in Toronto and Montreal, private stations carry on several important joint functions, in addition to spirited individual community activities. CAB projects include exchange of large quantities of Canadian and some foreign programs; 25-year sponsorship of "Report From Parliament Hill," a non-partisan series that permits members of Parliament to act as their own reporters; 5-year sponsorship of the Dominion Drama Festival, which dedicates itself to the discovery, development, and exposure of Canadian talent; in-station training for foreign students; and provision of career information to schools and individuals.





## The Press

Canada's 116 daily newspapers (13 of which are in French) claim a total circulation of over 4.5 million and reach about three quarters of the country's population every day. These are supplemented by 6 rotogravure publications which are each distributed periodically with from 1 to 39 daily newspapers.

The need for more local news in the smaller centres, or in small sections of the large cities, is met by 877 weekly newspapers, of which 128 are published in French and 54 are bilingual.

To serve the many Canadians of other ethnic backgrounds, 124 publications are printed in languages other than English and French. These range from dailies to annuals, and include all principal European, Asiatic, and East Indian languages as well as native Indian and Eskimo tongues.

A large number of Canadian consumer-oriented magazines cater to domestic interests in news, culture, and recreation. Of these, 305 can be identified because they issue circulation statements to prospective advertisers, and they cover such areas as universities and schools, sports, religion, entertainment and shopping, automobile and traffic, travel and touring, animals, labour, youth, arts, boating and yachting, and TV and radio.

There are 510 business publications, including annuals, with a total circulation of 4.4 million. These publications claim a vital role in Canadian business, professional, and industrial life, as prime media of adult education and the principal sources of practical information in many fields. They gather up-to-date technical information and expert opinions from all corners of the

country to give their readers specialized business information which is not available in the popular press. In order to tap the purchasing power of the 118 classifications of firms served by the business press, advertisers spend more than \$40 million per year, over and above production costs and advertising department expenditures.

Canada's 63 farm publications serve a dual function as business papers with highly technical information, and as consumer magazines satisfying the needs of the rural population. They are not counted among the consumer magazines or the business papers.

## Films

### The National Film Board

The National Film Board is Canada's official film-maker and distributor. Its films, produced in Canada's two official languages, relate to the common interests of Canadians and the interests they share with other people around the world. During the Board's more than thirty years of existence it has grown to become an important part of the country's culture, portraying through the cinema the national identity and at the same time exploring new directions in communications technology.

In the fiscal year 1968-69, 730 works were completed, over half of which

A member of the Indian film crew learns how to operate a camera.



were motion picture films (35mm, 16mm, clips). The rest were visual aids of various kinds: filmstrips, slide sets, overhead projectuals, multi-media kits, and photo stories. There was continuing interest in the multi-screen or multi-image technique of film production introduced so successfully at Expo 67. Feature-length films were produced for theatres and television in both English and French. Of all the films made, about one third were sponsored by government departments.

In Canada the Board's productions are distributed through community outlets, schools and universities, television stations, theatres, and commercial sales. In all of these areas annual figures showed a steady, and in some instances a marked, increase.

Filmstrips and allied materials, notably the new multi-media kits and 8mm loop films, continued to serve educational needs. The kits and loops aroused wide interest among educators, and were discussed in professional magazines.

In countries outside Canada films are distributed and exhibited through the Board's offices in London, Paris, New Delhi, Tokyo, Buenos Aires, and New York, and through embassies and posts of the Department of External Affairs and the Department of Industry, Trade and Commerce. Community screenings, television, and theatres also bring Canadian films to viewers abroad. During the year 1968-69 the world audience for films loaned through Canadian posts abroad exceeded 60 million people. During this year the Board's films won 76 awards in competition at international film festivals in various countries around the world.

An important part of the Board's program is to prepare versions of its films in over 40 foreign languages and dialects. An NFB film on Nigeria, for example, can be seen by the Nigerian inhabitants of one region with commentary in their own Hausa tongue.

Part of the Board's distribution program helps Canada's tourist industry. The Board distributes — particularly in the United States — films produced by provincial governments and companies engaged in the travel industry.

The Board is currently engaged in research to explore the film medium as an instrument of social change. A pilot project was undertaken, in collaboration with Memorial University of Newfoundland, in a remote fishing community where people, through play-back of video-tape recordings, were able to examine their problems and work out solutions. Other projects were carried out in Montreal and in a town north of the city where there are certain economic and social problems. As a result of such projects a group of young Canadian Indians was invited to study film-making at the Board. This has already resulted in several films of interest to the public at large, as well as to particular Indian communities.

In its technical operations a significant breakthrough was made in the development of a computer-operated animation stand to take over the heretofore time-consuming manual operation of animation photography. The combination of creative artistry and equipment such as the optical printer made possible Norman McLaren's award-winning *Pas de deux*. The science film division pioneered a technique for filming a surgical operation. This employed a 35mm colour camera, video recorder, and monitor receiver.





Don Shebib's *Goin' Down the Road* has won awards for the actors, Paul Bradley and Doug McGrath, and for the screenplay by William Fruet. The Film Development Corporation partially financed this Canadian film.

### **Private Film Companies**

The ever increasing demand for audio-visual communication in business, industry, education, and entertainment has caused continuous growth in Canada's private motion picture industry. The combined gross revenue of private, Canadian-based film production companies and motion picture laboratories exceeded \$30 million in 1969 for an increase of approximately 3,000 per cent over the total earnings of the industry in 1950. These figures do not include film productions by television stations.

Over 100 private film houses produced more than 8,000 sponsored motion pictures, television commercials, slidefilms, and so on, in 1969, designed to sell, promote, inform, educate, and entertain. Motion picture laboratories processed and printed an estimated 150 million feet of 16mm and 35mm film, almost 80 per cent of which was in colour.

Canada enjoys a world-wide reputation for creating effective, high-quality documentary films. Each year millions of people in many different countries see motion pictures produced by Canadians in English, French, Italian, German, and other languages. Given the increasing amount of domestic talent and the growing experience of the private film industry, and with the assistance of the Canadian Film Development Corporation, it is hoped that Canada's theatrical motion picture productions will achieve similar recognition during the next few years. The dozen and more full-length entertainment films in various stages of production by Canadian companies in mid-1970 testify to the strength of this segment of the industry.

## Libraries

Public library service is provided in Canada by the municipalities, the provinces, and the territories. Public library surveys leading to improved planning and appropriate legislation have been conducted in New Brunswick, Ontario, Saskatchewan, and Quebec. The regional public library organization of the Yukon and the Northwest Territories has been completed within the last decade. Handsome, well-equipped main libraries at Whitehorse, Y.T., and Hay River, N.W.T., provide gallery space for art and travelling exhibitions. With this territorial expansion, the public library map of Canada is being completed.

The development of school libraries has been encouraged, particularly in elementary schools, and provincial school-library supervisors have been appointed for Nova Scotia, Quebec, Ontario, Manitoba, and Saskatchewan. At the invitation of the Province of Quebec, the first national conference of school library supervisors was held in Quebec City, in 1967. The latest published survey of college and university libraries is that of Dr. Robert Downs, *Resources of Canadian Academic and Research Libraries*.

The greatest concentration of specialized government libraries, some 80 in all, is in the nation's capital, Ottawa. The largest collections are those in the National Library, the Library of Parliament, the Department of Agriculture Library, and the National Research Council Library, which specializes in the natural sciences and technology, and serves as a national science library.

The National Library of Canada was established in 1953 and in 1967 moved to a large new building, also housing the Public Archives. It is decorated with works by Canadian and Commonwealth artists and contains an exhibition area, an auditorium, and reading rooms which are open 24 hours a day to authorized researchers. The National Library specializes in the fields of Canadiana, the humanities and social sciences, with important collections in music and the performing arts. It publishes *Canadiana*, a monthly bibliography of Canadian books, government publications, records, and films. It maintains the national union catalogue, a card catalogue listing the books held by some 300 Canadian libraries. Through this catalogue, the National Library provides libraries and researchers with the locations of required material. Many Canadian libraries are linked to the National Library by a telex network, which accelerates the exchange of information and loans between libraries.

The use of automation by Canadian libraries is increasing; it is imperative to keep pace with the information explosion and the demands of research. Greater co-operation and co-ordination in automation and acquisition policies must be the goal of Canadian libraries in the years to come. With the organization of two additional schools of library science at Dalhousie University and the University of Alberta, and the growth of schools for the training of library technicians, more library personnel is assured.

# Acknowledgements

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# CANADA

SCALE 1:20,900,000 OR ONE INCH TO 330 MILES

MILES 100 50 0 100 200 300 400 500 MILES  
KILOMETRES 100 50 0 100 200 300 400 500 600 700 800 KILOMETRES

Federal Capital..... Provincial Capital .....  
Railways, Main.....  
Railways to Resources.....  
Air Routes, Canadian.....  
Air Routes, Foreign.....  
Steamship Routes.....

PREPARED BY THE SURVEYS AND MAPPING BRANCH,  
DEPARTMENT OF ENERGY, MINES AND RESOURCES.  
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